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A M E R I C A N
A G R I C U L T U R I S T ;

DESIGNED

TO IMPROVE THE PLANTER, THE FARMER, THE STOCK BREEDER,
AND THE HORTICULTURIST.

AGRICULTURE IS THE MOST HEALTHY, THE MOST USEFUL, AND THE
MOST NOBLE EMPLOYMENT OF MAN.—*Washington.*

A. B. ALLEN, EDITOR.

VOLUME VII

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AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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A. B. ALLEN, Editor.

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TO OUR READERS.

EVERY person who reads this article, if agreeable to him, we should like to have act as agent for our paper. Nearly all might induce more or less of their neighbors and friends to take it, thus benefiting them, and greatly increasing our circulation. Although this is considerable, still we should be gratified to see it extended. We probably have thirty thousand readers now, but we should be glad to have fifty, or even one hundred thousand; and we might obtain this number easily if our friends felt disposed to exert themselves somewhat in favor of the work. We respectfully call their attention to the following article on the importance of educating the farmer; and for this purpose we know nothing superior to Agricultural Journals. If these were disseminated bountifully among them, and they were apprised of their inestimable value to their calling, they would soon take them home and learn to esteem them as their best friends and advisers.

IMPORTANCE OF EDUCATING THE FARMER.

It is calculated that the division of the occupations of men in the United States is nearly in the following proportions:—

Number engaged in Internal Navigation	33,076
“ “ Ocean	56,021
“ “ the learned professions	65,255
“ “ Commerce	119,607
“ “ Manufactures	791,749
“ “ Agriculture	3,719,951

Thus it will be seen that those who are engaged in agriculture are three and a half times greater in number than those in all the other divisions. The agriculturists consequently have the physical and numerical power, and can at any time control every government in the United States, and give tone to

public opinion. But do they? No, indeed; for however powerful they may be in number, they are weak in influence, and this arises from want of proper education. The sixty-five thousand, two hundred and fifty-five, engaged in the learned professions, are intellectually stronger than the three millions, seven hundred and nineteen thousand, nine hundred and fifty one, engaged in agriculture, and therefore rule them. If it were not so, seven eighths of the offices in the country would not be held by lawyers and doctors; nor would all the colleges and high schools be endowed principally for the benefit of the learned professions.

Farmers, when will you arouse yourselves to the dignity and importance of your calling, and educate yourselves to that height of intelligence which will make you the rulers instead of the ruled of the other professions? There is surely nothing to prevent this if you will only be true to yourselves. Look at the millions annually thrown away upon the horrid barbarities of war or the preparations for it, and the honors that are awarded to those engaged in shedding a brother's blood, and compare these with the pitiful and downright contemptible sums which are grudgingly doled out for your benefit. Every occupation in the country seems to be bountifully provided for, save that of the farmer, and surely no one is to blame for this but yourselves; for if you choose, you need only speak to your servants, your rulers, and a reform might be had at once. Ponder these things well, then, and in the Legislatures assembled this winter, speak out and demand equal benefits with the most favored of the other professions.

ANNUAL VALUE OF AGRICULTURAL PRODUCTS.

The value of those grown the past year in the United States is estimated at upward of \$700,000,000.

WEEDS—THEIR UTILITY.

WHEN not occupied with useful crops, it is better to allow lands to run to grass, weeds, or almost any vegetation they will produce. A large accumulation of vegetable matter is thus secured upon the ground, no inconsiderable part of which is derived from that universal store house, the atmosphere, from which every skilful agriculturist should endeavor to draw as much as possible; and by turning this into the soil, an advantage is frequently obtained fully equivalent to a crop purposely grown for green manuring. Weeds and grass, after all, are less injurious than beneficial; and the intelligent farmer will not fail to make them subservient to his own interests, by permitting their growth when not in the way, and keeping them in subjection when they would interfere with a more useful vegetation. A few years ago we renovated a miserably poor field of several acres, by merely letting the weeds grow spontaneously upon it, and then plowing them in as often as the principal ones were going out of bloom. By this method the land became clean by vegetating the seeds of all the weeds in it, and was nearly as much enriched as if we had plowed in a succession of green crops—such as clover, buckwheat, or rye.

AGRICULTURAL SOCIETY ADDRESSES.

In the first volumes of this journal, we wrote some rather pungent articles on the unmeaning generalities which at that time too often formed the staple of Agricultural Society Addresses. Those who made them, usually began with father Adam and mother Eve, then quoted Hesiod, Virgil, and if their learning had come down so far, good old Tom Tusser. They would next offer some common place remarks, and at last wound up by telling the farmers that they were the bone and sinew of the country; the most independent and virtuous class to be found; the wisest, happiest, and best of men; the basis of the body politic and pillars of society; in short, the most enviable beings of the community, &c., &c.; all which nauseous flattery only served to disgust a plain set of common-sense men, or called forth their derision of the glib orator of the occasion, who had *talked much*, yet in their sound judgments *knew precious little*—at least, of what most concerned them. Now, happily, we are pleased to notice a great change in the matter and manner of these addresses.

One of the best which has fallen under our notice the present season, was delivered by B. P. Johnson, Esq., before the Greene County Agricultural Society, at its late Annual Fair at Windham Centre. It is, in fact, an admirable model; and those who are destined to make addresses another year, will do well to study this for the suggestive pertinency of its topics, and the simple and condensed manner in which they are placed before the people. As an illustration of our meaning, we quote the following.

Discoursing of English Agriculture, Mr. Johnson says:—"Great care is given to the selection of seed grains. In many instances so much nicety is observed, that the earliest heads and most luxuriant are taken out by hand, and carefully drilled in, until the product is sufficient for use; and in this way

some of the best varieties of wheat now grown in England have been secured."

Again he says:—"Not only is the care and attention which have been mentioned, given to the matters alluded to, but the cattle and sheep are bred with a perfection never before equalled. Their aptitude to fatten at an early age, to lay on their flesh on the most valuable parts, has been secured both in cattle and sheep, to a perfection that is truly surprising. I have seen week after week in Smithfield Market, London, from 3,000 to 5,000 beasts a week, a large majority of which are of the choicest animals, and would compete at any of our fairs, successfully for the premiums, with the best stock we have. The cattle brought to the market of their improved breeds are fattened at from 18 months to three years of age, seldom exceeding the latter age. The advantage to the breeder of turning off his cattle thus early, must be apparent."

In suggesting improvements to the farmers of Greene county, he adds:—"From your locality, the nature of your soil and climate, your facility of access to the great commercial metropolis of our country, it appears to me, that one great branch of agriculture with you, must eventually be, the raising and fattening cattle and sheep for market. I have already alluded to the success which has attended the efforts to improve both cattle and sheep in England, for the shambles. The same care and attention here in the selection of breeding animals, would eventually give you a stock, which would in every desirable quality, equal the animals in England, and yield you a reward for your efforts and investments that would be satisfactory to all. Your attention should be directed to the preparation of your lands for grazing. The growing of fine wool, also, would doubtless prove profitable, and your county seems well adapted to this business. An increase in this branch of agricultural industry would be a means of enriching your land, and enhancing its value for agricultural purposes."

"The superiority of our apples over those grown in England is now acknowledged *even there*, by every one who has tasted our fruit. The price which our apples bear in their markets, is much higher than their own fruit. In passing through Covent Garden Market, in London, where the choicest fruits and vegetables from almost every clime are found in great profusion, I discovered in a glass show case, some fine yellow apples, labelled "*American Newtown Pippins*." Glad to see even an apple that belonged once to my own loved native land, the land of the free, I inquired the price, and was informed that I could have them for 6s. sterling per dozen, being at the rate of nearly 12 cents each. I was satisfied with the look of these Americans, as you may well suppose. Let me then urge upon you the importance of cultivating *good fruit*, and that only. 'Tis best for your own use, best for market, and costs no more than the poorest. Your climate and soil, except perhaps in some localities, I should judge, was well adapted to its cultivation, and success will crown your efforts rightly directed."

This is the way to talk to farmers. In the summer of 1846, we passed through a portion of Greene and Ulster counties, mingling with the hardy yeo-

many of these bold mountain regions, and on our return to the city, wrote a short sketch of "Mountain Farming," see vol. v., page 301, of the *Agriculturist*. By reference to this article, it will be seen that we agree entirely with Mr. Johnson in the suggestions above. The hilly regions of these counties ought to have been found covered with hardy Galloway cattle, Southdown, and fine-wooled sheep, and fruit trees. With the products of these, the farmers would have been so wealthy that they would never have thought of anti-rent meetings; but would have been able and willing to have become the owners in fee-simple of the soil they occupied.

We had scarce finished writing the above, when we received the address delivered before the Hartford County Agricultural Society of Connecticut, in October last, by our excellent friend, Professor John P. Norton, of Yale College. This also is an admirable thing in its way. But instead of choosing a variety of subjects, Mr. Norton has confined himself to one, viz. draining. This is a highly important subject, and one which unfortunately has received little attention at the hands of the American farmer.

To show its great value, Mr. N. says:—"In 1846, I visited the farm of Mr. Dudgeon, of Spylaw, at Kelso, Scotland, near the English border. The surface soil was stiff, and the subsoil almost impervious to water. He had then drained about 90 acres, and the length of drains was nearly 300 miles! His landlords defrayed about half of the expense. He had a tile work which turned out from 400,000 to 500,000 tiles in a year, but not sufficient to supply his wants. He was then in the beginning of a new nineteen-year lease, and was draining as fast as possible, in order to reap the utmost advantage. The drains immediately raised the value of his land from a rent of \$2.50 per acre, to one of \$6.50. Owing to their ameliorating and drying influence, he had fine crops of turnips on stiff clays where it had never before been thought possible to grow them. The system of draining across the slopes had been tried on this farm, but abandoned as ineffectual, in comparison with Smith of Deanston's method. He was even going over those fields anew; at the time of my visit workmen were cutting straight down one of the slopes, across the old drains. Mr. Le Roy, a proprietor in the same neighborhood, had put in about 250 miles of drains on his own estate, thereby increasing the rent of many of his farms from \$5.00 to \$14.00 per acre. These were men of large property, but instances of equal or even greater success on a small scale, are frequent in many districts. In travelling over an unusually large portion of Great Britain, and hearing the experience of a very great number of practical men, I never met one who was disappointed in the result of efficient, thorough draining."

"The manner of carrying out improvements, and the extent to which they are at once adopted, must necessarily be very different in this country and in England. Our farmers are mostly proprietors of moderate means, each managing his own land. We have no tenants who are willing to pay eight or ten thousand dollars of annual rent, when that sum would purchase a superb estate in the West. Our farming being on so much smaller a scale, the im-

provements must be more gradually perfected. They may, however, and in this instance ought to be, of a similar character. The remedy for wet cold land, is the same here as there, and there are few of our farmers who could not in the course of each year, find time to accomplish something; even without increasing, to any material extent, their usual force. Half an acre or an acre of drains might surely be put in annually on almost any farm, and I have little doubt that he who commenced by one acre a year, would not long be contented without doing more."

In order to show how easily draining may be done, Mr. Norton gives a sketch of the recently improved pipe. He says:—"At present however, another form of tile is coming into general favor. It is a simple round pipe, made in lengths like the first, and for the cross drains of not more than an inch and a half in the diameter of the bore. These can be made much cheaper than the other kind, as they are smaller, and all in one piece. They are not more than half the weight of the old fashioned tile and sole, and therefore an additional saving is effected on the transportation. The trench for their reception is also much smaller, being at the top just wide enough to allow the trencher to work, and cut at the bottom with a narrow tool, to exactly the proper size for the reception of the pipe. The pieces are simply laid end to end, and wedged with small stones when necessary. The water finds its way in at the joints. Many have expressed doubts as to the operation of these drains, thinking that water would scarcely penetrate into so small a channel, through such minute apertures. No difficulty has been experienced in any case. One gentleman residing in the south of England, who has employed these small pipe tiles in draining exceedingly stiff clays, laying them at the depth of three feet, and ramming the clay hard down; offered a premium of £100 [\$500] to any person who would keep the water out of them. These tiles, of both varieties, are made by machinery. The clay is worked in an ordinary pug mill, such as is used in brick making, care being taken that no stones are present; it is then forced through a die of a circular or horse-shoe shape, according to the kind of tile intended to be made. It passes through in a continuous stream, which is cut off into the proper lengths by hand, or by a little apparatus connected with the machine. After drying sufficiently they are burned in a kiln. By the use of machines, and by manufacturing on a large scale, the price of tiles has been brought very low. In some parts of England the small round pipes now cost only ten shillings or \$2.50 per thousand, each tile being fourteen inches in length. This would make them only about four cents per rod. There is no doubt, that, should the demand be great they may soon be obtained here at as low rates. I hope to receive in the course of a few weeks such information from one of my Scotch friends, as will enable me either to give directions for the making of the best tile machine, in this country, or for the importation of a small one from England as a model. If the farmers only call for them in great quantity, I have full confidence that our American mechanics will soon improve upon the best English model that can be obtained. Even at \$5.00 per thousand, or eight cents per rod, the em-

ployment of tiles would be cheaper than that of stones in most situations, unless they had to be transported many miles. It is, moreover, much easier for inexperienced persons to cover them properly."

Much of the land in and about Hartford, is what is termed in New Jersey, a "red shale," which means a pretty stiff, red clay soil. It is strong land, and particularly good for grass. But it would be greatly improved by under-draining; and we hope the intelligent farmers of Hartford will be disposed to put the recommendations of Mr. Norton in practice. We are confident that in so doing, they would double the value of their property. As we were passing up the banks of the Connecticut last summer, we saw many fields in which there was standing water some time after a rain, and springy places, which were a great detriment to the land. No hoed crops could have been cultivated there with success; and a coarse watery grass was their only product, and must continue to be till draining is resorted to.

We would gladly have quoted at greater length from these capital addresses, but our limits forbid. It will be seen that both of these gentlemen have been abroad, and that they have made an excellent use of this important advantage; and now take pleasure whenever called upon, to liberally impart such information as they have obtained in their travels, as they think will benefit the farming community.

NUMBER OF SWINE IN THE UNITED STATES.—According to a late census recently taken of the swine in Ohio, they amount to a little short of 2,000,000; we may therefore suppose, that if the census were taken of all in the United States, in the month of September, when young and old are most numerous, they would not fall short of 20,000,000, or say a pig for each inhabitant!

PRUNING OF THE PEACH TREE.

THE pruning of the peach tree differs very materially from that of the apple and the pear. In the latter, a shoot may be shortened to any bud and the one directly below the cut will almost invariably produce a shoot; but a peach shoot must be cut to a place where there is a wood bud; for, if shortened to a blossom bud only, no shoot can result. It sometimes so happens that all the buds on a shoot are blossom buds, except the terminal one and one or two at the base. Such a shoot must either be left its entire length, or cut back to the wood bud at its base. The shoots of the peach naturally terminate always with a wood bud. If this be cut off, the blossoms on the part left will expand, and the fruit may set; but all will prematurely drop without setting, or the fruit would fall at the time of stoning; at all events, a leafless, budless shoot would result incapable of further vegetation, dying downward to the first wood bud. There are instances on record, however, of peaches, as well as of nectarines, attaining maturity without a shoot at their bases, or above them, which may be regarded only as exceptions to a general rule.

The peach and nectarine bear their fruit exclusively on wood of the preceding summer's growth. For instance, a peach plucked from the

branch in the autumn of 1848, it must be from wood formed in the summer of 1847, and which had no existence, as a shoot, in 1846, although then its origin might have been traced to a vital point within a bud. Such an almost invisible point, in 1846, might have been the section of the shoot *A*, as denoted in Fig. 1.

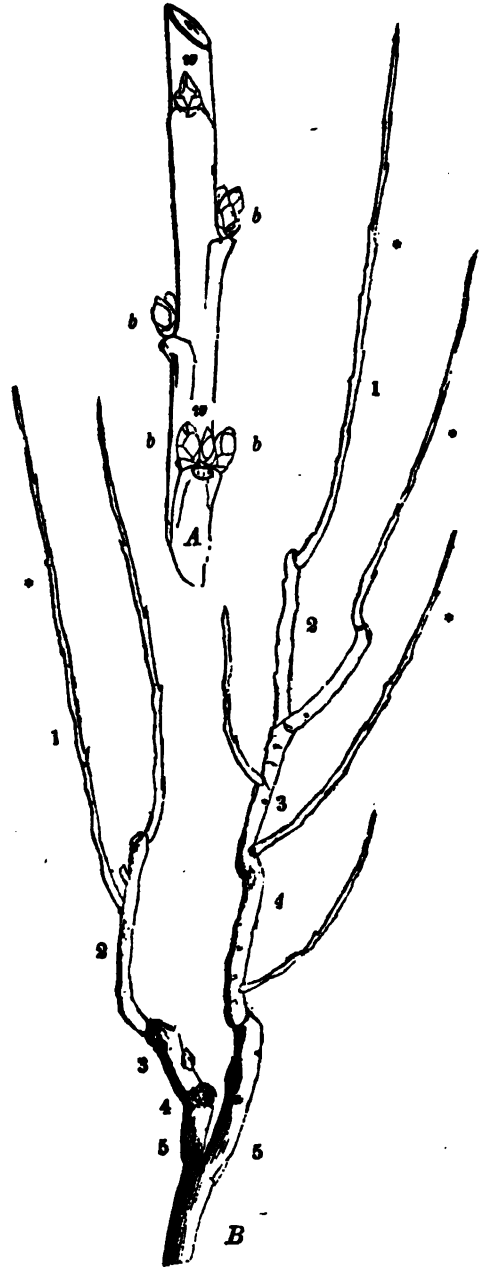


FIG. 1.

In the summer of 1847, this point would have been developed from a bud, forming a shoot fur-

nished with leaves disposed singly, in twos or threes, at the nodes along the growing shoot. In the axil of each of these leaves, the rudiments of a bud would have been formed; the leaves, having accomplished their office, would have fallen last autumn, whilst the energy of the young buds continued to increase; and their present winter appearance would be represented by *A*, in the figure above.

Blossom buds of the peach tree, it will be remembered, may be distinguished by their plumpness and ovate form, which gradually become globose (*b, b, b, b*, Fig. 1.) They have also a hoary appearance, owing to the scales opening and exposing their downy integuments in winter and spring. On opening them, the rudiments of petals, stamens, &c., may easily be seen by the naked eye. The wood buds are comparatively slender, conical, often impressed by contact of an adjoining blossom bud, or compressed when between two of the latter (*w, w*, fig. 1.) Their scaly covering is less deformed by expansion of their interior parts in early spring than is the case with the blossom buds, and consequently they exhibit less of that hoary pubescence by which the others are distinguished. In the case of triple buds, the middle one is generally a wood bud.

We will now revert to the section of the shoot *A*, with its wood and blossom buds, as represented, and follow up their progress. The blossom buds *b, b, b, b*, under ordinary circumstances, would produce four peaches, but one is enough to leave to come to high perfection. This will depend, however, much on the age and vigor of the tree. We have known ten good sized peaches to grow on a single shoot; but such instances are rare. From the wood buds, *w, w*, shoots would proceed, which in the course of next summer would form buds for future bearing; and at the beginning of the year 1849, would appear similar to those denoted on *A*.

B, in fig. 1, represents the branch of a peach tree ready for pruning. The figures 1, 2, 3, 4, 5, denote the respective ages of the portions of the branch opposite. The asterisks * at the sides of the shoots, indicate the place to which these may be shortened at the winter pruning.

If the blossom buds can readily be distinguished, the best time for pruning the peach tree, as well as for most kinds of stone fruits, is in autumn, just as the leaves are falling, when the sap is in a downward motion, and when a more perfect cicatrization, or healing of the wound will take place, than if pruned in winter or spring.

SWINE RUNNING AT LARGE.

We do not know of a more loathsome or reprehensible custom than that which prevails, not only in the upper part of this city, but in many of the beautiful villages around it, of letting swine run at large in the streets. It requires close, strong fences, and a constant watch of the gates to guard against their depredations, and these are necessarily kept up at a great expense; they drop their ordure on the side walks, and along the by-paths, making it exceedingly disagreeable to every pedestrian, and this, aside from the disgust it creates, is a great waste of valuable manure; and then if of a poor

breed, which is too generally the case, they are dirty and loathsome to behold.

Visiting a handsome village in this neighborhood last summer, which we forbear to name, we found the swine there not only overrunning the streets, but even pasturing and rooting up the fine grassy turf in front of the churches and in the grave yard on the Sabbath, where elegant ladies and well dressed gentlemen were going in and out. What a desecration we thought, and how was it possible for a genteel, moral people to tolerate it for a moment! But tolerate it they had for years, and will doubtless continue to do so for years to come, notwithstanding this article, merely because a few loafers and careless housekeepers must be obliged at the expense of a numerous community. The law is stringent enough against swine running at large, but the respectable portion of the community fear to put it in effect!

A well bred pig, in fine condition, is a highly commendable animal in a pen, or in a close-fenced back lot rather out of sight, and there they should be kept. If any loafer presumes to let his swine run in the street, they ought to be instantly taken up and put in a pound, and the owner heavily fined; and in default of his immediately paying it, let them be sold at auction for what they would bring. This would soon put an end to the loathsome practice of letting swine run at large in the streets.

ANNUAL MEETING OF THE N. Y. STATE AG. SOCIETY.—Our readers will please to bear in mind, that this meeting takes place at Albany, on the third Wednesday of January, 19th instant, for the purpose of choosing officers for the year ensuing, and transacting any other business proper to be done. We hope to see a full attendance of the members, and that in all their proceedings, selfish considerations and sectional prejudices will give place to liberal action. Gentlemen should remember that they are jealously watched by plain, honest farmers; and that the advancement of an improved system of agriculture throughout the State, is the sole object of these meetings. Whatever may tend to obstruct this great object or neutralize it in the smallest degree, should be put down at once with scorn and contempt.

ROT IN POTATOES.

MR. A. L. BINGHAM, of Cornwall, Vt., informs us, that he planted a part of his potatoes between every hill of a field of corn, and that the portion thus planted turned out perfectly sound, while more than two thirds of the crop planted by themselves in an adjoining field were affected with the rot. Both fields were planted and dug at about the same time, were of the same kind of soil and situation, and were otherwise treated as nearly alike as possible.

We are doubtful whether planting potatoes among corn will always secure them against the rot, as this is the only instance we have yet heard of its being tried with success, and there might have been other causes, aside from the one stated which prevented the crop from rotting among the corn. But here is a remedy against the rot, which so far as we have heard, has proved infallible. We

have published it twice already in the *Agriculturist*, but not one farmer out of a thousand seems to have yet heard of it; for the special benefit therefore, of the ignorant nine hundred ninety and nine, we intend to insert the remedy two or three times more. It is simply this:—

When the seed is dropped, sprinkle about a pint of slaked lime over it in each hill and then cover. There is this value about the lime, if it does not prevent the rot in the potato, it will be worth its cost and the labor of application in fertilizing the land.

APPLE ORCHARDS.—No. 5.

Pruning.—In pruning apple trees, it is alike important to regard the general form of their heads, as it is the management of their individual branches. A system which has long been practised in Europe, and has been adopted for many years in the United States, is to lead out of the upright stem, at a given height, a series of horizontal branches, each series comprising four limbs, situated at proper intervals, till the tree can bear no more of them. The advantages resulting from this mode, are, that the boughs can be made capable of producing fruit at an earlier age; the strength of such branches, at the place of their insertion into the stem, is much greater than of those which grow at more acute angles; and that the flat or semi-spherical heads of such trees seem designed not only to lessen the hold of the wind, but to diminish the influence of the shade on the crops around them, as well as to admit light, heat, and ventilation within them. It has been recommended that the head of the tree be somewhat



FIG. 2.

hemispherical, with a hollow space left in the line of its central parts; for these parts are more secluded from the light and air, than the rest of the tree, and consequently are not adapted to the production of fruit. In forming the head of a tree in the Atlantic parts of the United States, it has also been recommended to diminish the weight and quantity of boughs on its east or northeast side (the side opposite to the prevailing winds), as trees generally incline that way; and to encourage the branches on the opposite side to screen the sun from the trunk, in order to prevent its powerful rays in summer from killing the bark, and causing canker and ruin to the tree. Mr. Knight recommends most attention to be paid to the lateral branches, which if unchecked by occasional pruning, are apt to load the tree too much at the extremities. Mr. Joseph Cooper, of New Jersey, entertained a similar opinion. "Young fruit trees," said he, "should not have the side shoots cut close to the stem, which forces the growth the whole way up the top; which becomes so weighty as to bend and spoil the trees. I have found it better to cut the ends of the side shoots * * * * which will encourage the growth of the stem or trunk, till it acquires strength to support a good top." After the head of the tree is properly formed, nothing more is necessary than to cut out all the branches that cross each other, or are likely to be in the way within three years. As the trees produce their fruit upon cusions or spurs, care must be observed not to cut off or destroy them, as

they continue to be fruitful for several seasons. It has also been recommended to "prune at a fork," or at least, "at a bud;" on the ground that a wound is best protected when covered by bark from without; and as the bark never spreads over the end of a long stump, but only over the place from which it has been taken, the new cover must be supplied by the extension of the bark of another branch, and such a branch, even a bud may become in time. Till this extension of bark be effected, however, an artificial covering should be substituted, by shaving the wounded surface close and smooth, and applying immediately a plaster composed of

	Parts.
White Burgundy pitch,	16
Black pitch,	4
Resin,	4
Bees' wax,	4
Tallow,	8
Pounded mastic,	1
Saltetre,	1

This mixture should be warmed over a slow fire for three fourths of an hour; and when melted, but not too hot, be put on with a brush to a depth of one sixteenth to one half of an inch in thickness, according to the size of the wound. In performing these operations, particular care must be observed not to injure the remaining branch or bud; and should a cut accidentally be made, the wounded part should by no means be removed, but be pressed fast together, and a coat of the composition immediately laid over it. The bearing capabilities of apple trees of considerable age may be much improved by judicious pruning, in removing decayed branches, and old, unprofitable boughs, where the head is too much crowded. These should, in all cases, be taken off by a clean cut, close to the branch from which they are separated, or at least to a lateral shoot, so that the part may heal over as soon as possible.

The proper season for pruning is about midsummer, or about the time the downward motion of the sap commences, and when a more perfect cicatrization of the wounded parts takes place, than if pruned in the winter or spring. Another important rule in pruning, is, to remove every part of the tree "incurably diseased;" not only because the disease may be contagious, but because rottenness of itself occasions increased evils, from the weather, from insects, and other causes. When the adjoining wood and bark pruned to the quick, and properly sheltered, room is given, as we have pointed out, for a natural cover to be made for the wound. But we must repeat, that the wound, if possible, must be protected, or the evil may be made worse, from various causes. When consistent, the wound occasioned by pruning should be on the lower side of the branch, rather than on the upper side; especially where no composition is intended to be applied, as the lower side is least exposed to the sun and rain. It is a good rule to have no reliance on boughs which are kept continually damp by the drippings of other boughs, or upon those which are kept constantly screened from the sun. "The general shape of an old tree" should be kept substantially the same, in order that the ascending juices may continue as nearly as possible in their

accustomed channels; or if changes are aimed at, they should be gradual. Hence, care must be taken not to cut off "too many large limbs at a time," lest the sap of some of the roots, and particularly those corresponding to these limbs, should be too suddenly checked in its ascent.

Sometimes trees, which at first were good bearers, become stag-headed and unfruitful. It is more than probable that this condition is owing to some defect in the soil. The proper remedy to be resorted to in this case, is, what is called "heading down;" that is, removing all the branches to within a foot or two of the main forks, or the stem of the tree, in order to encourage the formation of a healthy and vigorous head. This operation should be accompanied by a heavy dressing of compost, formed of oyster shell lime, ashes and loam, extending for a considerable distance round the tree, which should be dug in with the turf. According to the opinion of some orchardists, pruning, after the head of the tree is properly formed, is to be avoided as much as possible, as it creates numerous useless shoots, and prevents the production of fruit. A very important advantage, however, may be derived from this principle by provoking young shoots to appear by skilfully wounding the bark in the vacant spaces of a branch, and thereby regulate the symmetry of the tree.

WORK FOR THE SEASON.

In every month, ere in aught be begun,
Read over that month what avails to be done;
So neither this travell may seem to be lost,
Nor thou to repent of this trifling cost.—Tusser.

In our youthful days, one of the books which gave us the greatest pleasure to peruse, was the quaint old poem, called, "Five Hundred Points of Good Husbandry," by Thomas Tusser. A beautiful edition of this work has ever since graced our library, and although our time is now very much engrossed with an exacting business, yet we occasionally find means to snatch an hour during the long winter evenings, to devote to the perusal of what formerly gave us so much delight. In conning over the lines above quoted, a short time since, it occurred to us that we might profitably ask our readers, the pertinent question of "What avails to be done" during this month, that their "travell" (labor) "may not seem to be lost."

We will suppose your horses, cattle, sheep, and swine daily well fed, housed, and cleaned; that your grain is being prepared for the market; that your wood pile is replenished, and such logs as will be wanted for sawed stuff the coming year are taken during good sledding to the saw mill; that the manure as fast as the heaps accumulate, is carted out to the fields and deposited where it will be needed in spring, and if the weather be open, that peat, swamp muck, the leaves of trees, and all decaying matter around your premises are added in proper quantities to these heaps; that all the tools as time permits are being put in order; that the hemp and flax are broken; that you are giving a look to the orchard and cutting out all decayed and dead limbs; and if you care for early vegetables and have time to cultivate them, that the hot beds are now in rapid preparation in the garden; that you have settled all your accounts for the past year; that you are kind

and generous to your poor neighbors; and finally, that you are at peace with yourself and the world. Then what remains to be done? It is this. As you have time, review the numbers of your last year's agricultural periodical—for no man can be entitled to be called a really good farmer, who does not take one of these cheap and highly useful publications—and note all the hints in it of any value to you, and prepare to carry them into practice during the coming active season. If you have more time than this to give to books, commence some one study closely bearing on your occupation. Of these, there is a great variety. For example, agricultural chemistry; mineralogy; vegetable physiology and botany; arboriculture; mechanics, particularly those branches which are connected with building, and the manufacture of agricultural implements; engineering as it has a bearing on ditching, draining, and fencing; natural history, together with the anatomy and pathology of the domestic animals.

These are such things as the farmer ought to know; and he may acquire a pretty good notion of them all by the time he is forty years old, if he will properly improve his winter evenings. Then the mind and hand would work together, and at so great an advantage as to surprise the world. Whenever any country can show such a race of practical and scientific farmers to work its surface, its agricultural productions will be quadrupled; and with morals to match—for these are pretty sure to go hand in hand with science—the enjoyments and happiness of those thus educated would be multiplied ten fold. Are not these things worth working for? We think so; and hope every tiller of the soil in America will respond to the assertion, and exert himself manfully to carry them into effect.

As sure as the sun shines, that farmer who is the most intelligent, and couples with that intelligence proper application and economy, always makes more of every thing under his control, and reaps a larger annual profit than those who are inferior to him in education. It is truly said, that "time is money;" may we not add with equal truth, that education is also money. If then, there be no higher motive on the part of the tillers of the soil to enlighten their minds and increase their understanding, let them do it solely for their worldly interest.

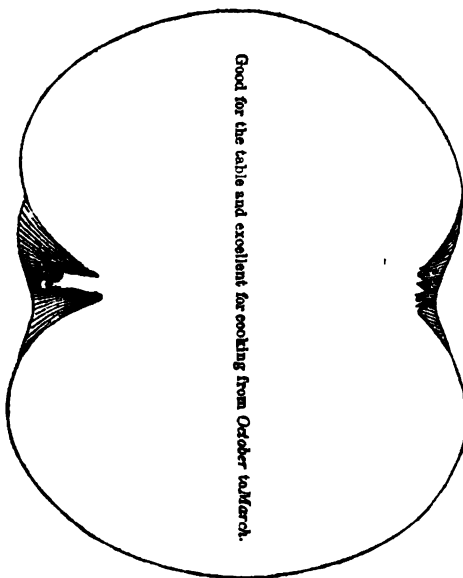
SECRETARY OF THE STATE AGRICULTURAL SOCIETY.—The present incumbent, P. B. Johnson, Esq., has discharged the duties of this important office so ably and efficiently, and with such general satisfaction, that we trust he will be re-elected without opposition. It requires peculiar qualifications to fill such an office properly, and these qualifications we think Mr. Johnson possesses in an eminent degree. We think also the salary ought to be increased, and that something should be allowed him for an assistant, so as to enable him to travel more, and make the Society better known to the people. This would benefit the Society in two ways: first, by obtaining a considerable accession of friends to it; and second, the Secretary would be able to gather up a good deal of information, which condensed by way of reports in the pages of the Transactions, would tend to enlighten the farming community on those subjects which most interest them.

CHOICE VARIETIES OF APPLES.

NEWTOWN PIPPIN.—This most celebrated and unquestionably best variety of apple in the world, is believed to have been the spontaneous production from a seed, more than a century and a half ago in Newtown on Long Island, near New York, and is well known by the name of "Newtown Pippin." The original tree stood on the estate owned at present by Mr. John J. Moore, of that town, and for a long time its fruit was called the "Gershom Moore Pippin," in honor of his grandfather, its former proprietor. After enduring for more than one hundred years, it died, in about the year 1805, from excessive cutting and exhaustion. Its scions were in great request by all the principal amateurs and orchardists of the day, and engrafted trees of it are still to be met with in the neighboring towns, which have stood beyond the memory of man. On the estate of Mr. Gardner G. Howland, at Flushing there are several trees of this variety, which bear abundantly every other year, and are supposed to be at least one hundred years old.

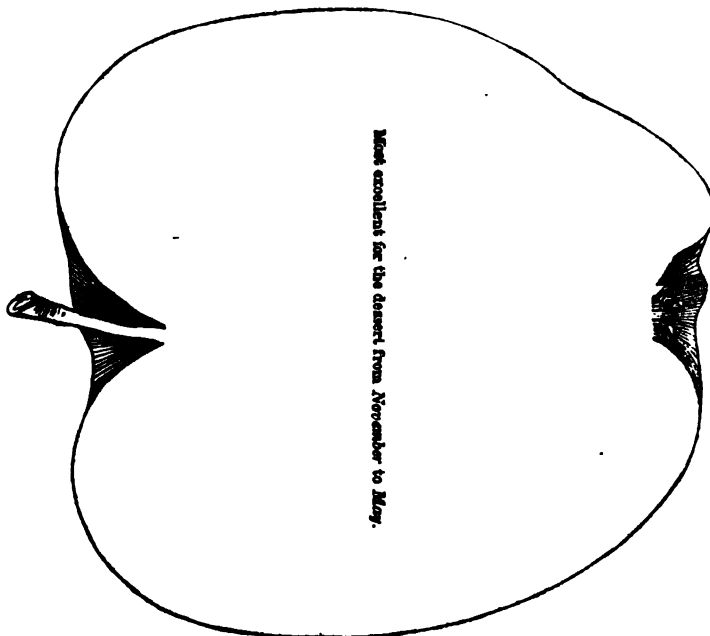
The Newtown pippin varies much in quality with soil, aspect, cultivation, climate, and age. The two most noted sorts are the "Green" and the "Yellow," the former of which is most esteemed for its properties of long keeping and retaining its freshness of flavor during distant voyages at sea. The form of both varieties is rather flat, the size somewhat large, the skin more or less yellow, at extreme maturity, often with blackish clouds or patches, and frequently marked with spots or blotches of red. It is of the green variety of this fruit that the celebrated orchards at "Pelham Farm," in the county of Ulster, are principally composed. The proprietor, Mr. R. L. Pell, informs us that his trees continue under his superior process of manuring and working the orchard grounds to bear vigorously every year; and, that during the past autumn, he put up for shipping, several thousand barrels. His apples command extraordinary prices in the English markets, and doubtless will soon be known in every quarter of the globe.

YELLOW BELLE FLEUR.—From its excellence and great beauty, this variety, according to Landreth, is the most popular apple in the Philadelphia market. Its size is remarkably large; is of a pale, but bright and fair yellow color, with the cheek next to the sun, sometimes wearing a blush, though more frequently is without any red. The form is oblong, somewhat pointed at the blossom end, and deeply indented at both ends. Its seeds are uncommonly large, and are lodged in cavities of unusual size. The flesh is rich, juicy, tender, and sprightly, and if carefully picked before they are too ripe, these apples will keep in high perfection through the winter, till late in the spring, especially when they become slightly shrivelled or wilted. The tree grows very large and spreading, and should be trained high, or the limbs will bend to the ground when heavily laden with fruit.



Good for the table and excellent for cooking from October to March.

NEWTOWN PIPPIN.—FIG. 3.



Best excellent for the dessert from November to May.

YELLOW BELLE FLEUR.—FIG. 4.

AGRICULTURE OF THE CHINESE.—No. 1.

On page 205, vol. vi. of the *Agriculturist*, in our notice of Fortune's "Three Years' Wanderings in the Northern Provinces of China," we proposed to publish from that work, in a condensed form, in two series of articles, one to be headed the "Domestic Flora of China," and the other the "Agriculture of the Chinese." The first of these series was concluded in our December number—the latter herewith commences, and will be continued through the present year. Mr. Fortune, it will be remembered, was sent to China by the London Horticultural Society, in 1843, for the purpose of obtaining new plants of an ornamental and useful character, with instructions to give every possible attention to the horticulture and agriculture of that wonderful country. The result of his observations was published, in England, a few months ago under the title above mentioned, which, in addition to the usual topics treated of by travellers, contains a large amount of reliable information on agriculture and its kindred subjects never before offered to the public.

The profession of agriculture in China has been highly honored and encouraged by the government of the country, from the earliest times down to the present day. The husbandman ranks higher here than he does in any other country in the world, and the emperor himself marks his sense of the importance of agriculture, by engaging in its operations at the commencement of every season. In his character of "Son of Heaven," or mediator between the gods and his subjects, he devotes three days to solemn fasting and prayer, after which he proceeds to a field, and with his own hands holds the plow, and throws a portion of the rice seed into the ground, thus showing the importance which government attaches to industry in the cultivation of the earth, that there may be plenty on the land to supply the wants of the teeming population.

The progress and advancement of the Chinese in agriculture as an art has been, however, greatly exaggerated by many who have adverted to this subject in their writings. The Chinese government has been always so jealous of foreigners entering the country, that those who were probably able to form a correct opinion on the subject were prevented from doing so, and were led away by the fertility of their imaginations; while, on the other hand, the Roman Catholic missionaries who travelled and resided in the interior, were evidently ignorant of the art itself, as well as of the progress it had made in other countries. But it must also be borne in mind, that whilst agriculture has been advancing rapidly towards perfection amongst the nations of the Western World, the Chinese in this, as with most other things, have remained stationary, and hence there must be a much greater disparity between us and them now than there was when the early writers upon China published their works. To these writers, and more particularly to those who kept on faithfully copying their works, we must attribute the erroneous opinions which have been generally held by us in every thing relating to the agriculture of the Chinese. I have no doubt that, as a nation, they surpass the natives of India and other half-civilized States in this art, as they do in most other peaceful accomplishments.

In order, however, that the reader may form an

opinion for himself, I will describe in detail what passed under my own eye connected with this subject, during my travels of nearly three years in the country. In that space of time I had an opportunity of seeing repeatedly the various methods of cultivation and their results, both in the north and in the south; all of which were carefully noted in my journal at the time. I will begin with the southern provinces. These are, of course, tropical, and differ from those in the north in many respects, both with regard to soil and the nature of the plants cultivated.

Soil.—The soil of the mountains in the south of China is of the poorest description. Rocks of granite are seen everywhere protruding themselves above the scanty vegetation, whilst the soil itself is composed of dry burnt clay mixed with particles of granite in a decaying or disintegrated state. This soil naturally so poor, is kept so by the practice of periodically cutting and carrying off the long grass and stunted bushes for firewood. Sometimes the natives set fire to this upon the mountains, for the purpose of affording a scanty manure, but nevertheless the soil is miserably sterile. Almost all the hilly portions of the south of China are in a state of nature "stern and wild," where the hand of man never attempts agricultural operations, and where it is almost impossible he ever can. Here and there, near the base of the hills, the far-famed terrace cultivation may be seen, where the natives grow small patches of rice and other vegetables, such as sweet potatoes and earth nuts, but the portion of land in this part of the country used for such purposes, bears but an extremely small proportion to the vast tracts in a wild state.

At Amoy and over all that part of the provinces of Fokien the mountains are even more barren than those of Quantung. On some of the hills on the island of Amoy, the traveller may wander for miles and scarcely see even a weed. On every side there is nothing but masses of dark crumbling granite, and red burnt-looking clay. This, however, seems the northern boundary of the most barren part of China. When we reach the river Min near Foo-chow-foo, there is a great change visible in the vegetation of the hills, caused, of course, by the richer nature of the soil. This remark applies to the northern portion of Fokien and to the whole of the province of Chekiang. I have ascended hills near the mouth of the Min at least 3,000 feet above the level of the sea, which were under cultivation to their summit. The soil here was composed of a gravelly loam; and though far from rich, it contained more vegetable matter or humus, and was also much deeper. This addition of vegetable matter rendered the soil sufficiently fertile to repay the Chinese farmer for the labor expended in bringing the crops to maturity. Some of the hills are of course much more productive than others. The tea districts, for example, both in the province of Fokien and Chekiang, are not only more fertile, but are very different from what they are generally supposed to be.

But even here, and over all the most fertile mountain districts of Central China, it would be ridiculous to assert, as some have done, that the whole or even the greater part is under cultivation. On the contrary by far the greater part lies in a state of

nature and has never been disturbed by the hand of man. I am anxious to state this fact in express terms, in order to set those right who have been led to believe that every inch of land in the empire, however bleak and barren, is under cultivation, having given way to Chinese industry and skill! I myself, before I visited China, was under the same impression; but the first glance at the rugged mountainous shores soon convinced me of my error. Unfortunately, our opinions of a distant unknown country are apt to go to extremes, either fancying it entirely barren, or else a paradise of fertility.

The soil of the valleys or plains varies quite as much in different provinces as it does in the hills. The level of these valleys or plains is generally very low; in many instances below that of the rivers and canals. In the south the soil consists of a strong stiff clay mixed with a small portion of sand, but containing scarcely any vegetable matter or humus. This is its composition about Canton and Macao, and in fact over all the provinces of the south, unless perhaps in the vicinity of large towns, where its natural character has been altered to a certain extent by the influence of manure. Where the hills lose their barren character, four or five hundred miles to the northward from Hong-kong, a visible change takes place also in the soil of the valleys and plains. In the district of the Min, for example, instead of being almost entirely composed of a strong stiff clay it is mixed with a considerable portion of vegetable matter, and is an excellent strong loam, not unlike that which we find in some of our best wheat lands in England and Scotland, and capable of producing excellent crops. As a general rule it may be observed, that the lower the valleys are, the more the soil approaches in its nature to the stiff clay of the south, and *vice versa*. For instance, the Shanghai district is several feet higher above the level of the rivers and canals than that of Ning-po, and the soil of the latter consists more of a stiff clay and has less vegetable matter in its composition, and is far from being so fertile as the cotton district of Shanghai.

THE CANADIAN PROVINCIAL CATTLE SHOW AT HAMILTON.

On a bright autumnal morning early in October, I left home on a visit to the Hamilton Cattle Show, having been warmly invited thither by my friend, the Hon. Adam Ferguson, now President of the Society. Crossing the Niagara, opposite my own residence, to Waterloo, on the Canadian shore, I followed the river down sixteen miles, over a level, yet fertile country, tolerably cultivated in the old fashioned Dutch way, to Chippewa, two miles above the Falls. The scenery along the river thus far is quiet and beautiful. The banks are raised from six to fifteen feet above the water, which flows in a full, broad stream of great clearness and purity, spreading from half a mile to a mile in width, and smooth as a polished mirror. The Canada side of the Niagara was settled during the Revolutionary war—of course an old country in America. Its agriculture is pretty much stationary; yet bearing abundantly of all the cereal grains, the grasses, Indian corn, and roots. The farm stock is mean enough. The cattle, sheep, and hogs wretch-

ed, and the horses only so-so. Of poultry, they keep any quantity—the farmers' wives being proverbial along the Canada shore for their poultry, eggs, and butter. Fine orchards of excellent apples line the river banks—a real redeeming quality to their usual lack of enterprise; and owing to the vicinity of the river, the fruit is never cut off by spring frosts, giving them constant, and with rare exceptions, full annual crops.

Passing Chippewa, a little village two miles above the Falls, the country varies somewhat in character, the soil growing more sandy—it being a clayey loam above on the river, and the cultivation rather improving. At and about the Falls, is the village of Drummondville, lying upon the celebrated battle grounds of Lundy's Lane and Bridge-water—a rare and beautiful spot. The village in itself is pretty and neatly built, with several fine houses scattered about the neighborhood. A light, warm, sandy loam furnishes a soil of surpassing excellence for all kinds of northern fruits, which flourish in the highest perfection. Along the road lying through Stamford, which is a continual village for three miles beyond Drummondville, are seen the finest fruit trees. Many old peach trees 8 to 10 inches in diameter, and which I was assured were full thirty years old, were breaking under their loads of fruit; and apples and pears hung in the bending orchards in the fullest luxuriance. Indeed, there is no finer fruit region in America than the shores of the Niagara, on both sides, from Lake Erie to Ontario, when properly cultivated. But the peach below the table land or mountain, five or six miles distant from the Falls, where the whole country descends abruptly from the Erie to the Ontario level, some 300 feet in height, is more luxuriant than near Lake Erie, owing to a higher temperature and an earlier spring.

Descending the mountain, through the remarkable gorge so particularly noticed in the geological notes of Professor Lyell, and which by the way is a most picturesque and beautiful passage—the little hamlet of St. David's occurs on the main road, running west from Queenston, on the Niagara, to Hamilton. Taking this road, which is well McAdamized for several miles, I passed St. Catharine's, a village of some 4 or 5,000 inhabitants, on the Welland Canal, and distant some six miles from Lake Ontario. The lands all along on this road are eminently fine, yielding wheat, corn, and all the lesser grains, roots, grasses, and fruit in the highest perfection. The agriculture too is quite good. All the way from Queenston to Hamilton these remarks will apply. The soil is chiefly a strong loam running into varieties of clay and sand, but universally rich and durable. Immense quantities of apples loaded the orchards all along the road; good buildings were frequent; and the whole country wears the appearance of prosperity and comfort. Farms are worth from \$30 to \$50 per acre; but few are disposed to sell—a capital indication in a farming community.

At St. Catharine's, passes the Welland Canal, which connects the lakes Erie and Ontario, floating steam and sail vessels of 400 tons burthen. Within sight of St. Catharine's, it descends the mountain by a course of about 30 locks, making a descent of some 300 feet to the Ontario level. It is a stupen-

dous work, worthy of the forecast and enterprise of the Canadian government. Familiar as I have long been with canals, I was forcibly struck with the sight of numerous masts, and shipping, and steamboats, working their sinuous course through the quiet farms, amid cornfields, meadows, and herds of cattle, and threading their way as they locked along up the sides of the mountain, two or three hundred feet above me, and only a mile or two distant! The picture was not only novel, but it was spirit-stirring, striking, and beautiful. St. Catherine's is a pretty town, composed of English, Scotch, Irish, native Canadians, and Yankees; quite a large representation of the latter, and taking their full share in the enterprise, business, and wealth of the country.

The entire road to Hamilton, passes close under the mountain, and upon it are many charming and fertile spots, some pleasant villages, and occasionally a point of remarkable beauty of position and luxuriance of soil; equal indeed to any I have ever met, and many of these spots are improved with fine taste and discrimination. Numerous retired officers of the British government, and others of moderate, yet comfortable estates for rural enjoyment, have settled in the Province. Many a quiet and pleasant spot have they selected; and with their good judgment and snug English notions, have made themselves as agreeable homes as an unambitious heart could desire.

Forty miles west of the Niagara River, at the head of Lake Ontario, and right under the mountain, which towers up three or four hundred feet above it in an almost perpendicular wooded bank, stands Hamilton, a new, yet rapid growing town of eight thousand people; and only a dozen or fifteen years since its settlement commenced. It is destined to be the largest town in Upper Canada, having a fine back country for near two hundred miles to Lake Huron; and is rapidly settling with a good population, for which this is, by its local position and the course of internal communication, to be the emporium. No spot can be more commanding and agreeable for a fine town. The soil, a sandy loam, the mountain or table land, stretching like a deep crescent around the head of the lake, descending in slopes of great variety and beauty to its shore, forming for a dozen miles, an amphitheatre of hill, dale, woodland, and lawn, upon which are sprinkled many a pretty farm house and villa. A richer and more charming prospect, is seldom found than here.

Arriving the day previous to the show, I found the people gathering from various parts of the Province, with a spirit, and in numbers indicating zeal for agricultural improvement altogether gratifying; and at night, the town was full of people, anxious for the exciting scenes and competition of the morrow. To-morrow came, and with it came also clouds and storm. The show ground was on the race course, a mile and a half out of town, with a wretched road, now by the mass of vehicles and animals passing on it, cut into almost impassable ruts and sloughs; an inconsiderate arrangement enough, when so much vacant and commodious ground lay all around and in the village, which could have been so well appropriated. But the race course was fenced in with high and

tight boards and commodious buildings, which was no doubt the object of the society in using it; they not having yet adopted our State plan of compelling the place where the show is held to furnish the preparations and fixtures, without expense to the society.

With the exception of the weather, which was disagreeable in the extreme, the show was a good one, remarkably so, for the age of the society; this being only the second exhibition it has held. First and foremost in importance, the people themselves were highly respectable. Many a stout and substantial representative of the better class of English, Scotch, and Irish farmers, were mingled with the numerous native Canadians, as well as Yankees, who have made the Canadas their home; all well representing the industry of themselves and their families, by the various products which they brought. Indeed, the only surprise was, that in such weather, so many ventured out; but come they did, females and all, prompted by their zeal and curiosity to see the show. Of horses, there were two classes, blood, and horses of all work. Both classes were highly respectable, and many first rate animals might be selected among them. A very beautiful and high bred horse called Mercer, owned by Mr. Hathaway, of St. Catharine's, and bred by Com. Stockton, of Princeton, New Jersey, was exhibited among others. They have some excellent horses in Canada among their spirited breeders.

In cattle, the different breeds were tolerably represented with some remarkably good specimens in each class of Short Horns. Messrs. Fergusson, Wetherhall, and Hewitt, had the most numerous herds. Several others also exhibited good animals, and I was gratified to find that the number of Short Horn breeders, are so many and so skilful as in Canada. There were some remarkably good cattle among them.

Of Herefords, there were none.

There were a few choice Devons, but in low condition, and not appreciated as they should be. They will, when properly understood, be a choice and valuable stock for the Canadians.

Of Ayrshires, the exhibition was decidedly the best I ever saw. There were several fine imported bulls and cows, with their progeny as choice as themselves, and the whole numbered more than twenty. The Scotch farmers have imported many Ayrshires, but they are not equal favorites with the Short Horns.

Fat cattle were shown only by the butchers of the town, and they were but common specimens. As a whole, the common cattle of Canada are inferior to those of the United States, improvement in breeding having but recently commenced among them.

The show of sheep was very good in Leicesters and Southdowns. Perhaps thirty of the former, and twenty of the latter, were on the ground, besides numerous crosses of the two breeds upon the common sheep. I saw not one fine woolled sheep in the lot. The Canadians know very little of either Merinos or Saxons, and I was surprised to hear some respectable farmers say, that they never saw a Merino sheep! So valuable a portion of farm stock as fine woolled sheep, should not be longer neglected. The reason given for their non-cultiva

tion is, the want of a market for the wool. - It will bring no more than native wool in Canada. There were some good hogs of the kind represented—in truth I was surprised to find so many good ones. But they were enormously large; the largest decidedly, I ever saw. Black and white, spotted, and pure white in color; called by the different names of Leicester, Yorkshire, and some other local names. There were only a few Berkshires, the finest boned and smoothest altogether of the hogs exhibited. The others must be great consumers, and are rather coarse in appearance; but as they appeared to be decided favorites, it will hardly do to question their excellence untried. To those who want monster hogs, I commend them to the neighborhood of Hamilton.

In miscellaneous articles, the show was good. A general variety of household manufactures, and of Canadian make, and agricultural implements were on the ground. The Scotch iron plow is greatly used there, and a very favorite instrument too, with many of the farmers although our Yankee plows are working in upon them strongly. If the criterion of excellence be in the plowing itself; for the work at the plowing match was all performed with these Scotch plows, then they are unsurpassed, *for I never saw such good plowing any where as at Hamilton.* There were some twenty competitors in the plowing match. Every piece, a quarter acre each, was done in first-rate style; and almost every furrow was as straight for twenty rods, as a line could be drawn. If we could have such plowing matches as that, instead of the abortive things usually attempted and called such, at our cattle shows, there might be some good in them.

Of grain of all kinds, the show was the best I ever saw. There were probably five hundred bushels of wheat, barley, oats, peas, corn, hemp and flax seed, exhibited. The Canada Land Company, offered \$100 for the best twenty-five bushels winter wheat, which brought numerous competitors. Some of the samples weighed 63 lbs. to the bushel, and produced upwards of forty bushels per acre. There are many large and excellent wheat growers in Canada. Numerous sacks of hops were also there, of fine quality; an article unknown in our State cattle shows, and which might be advantageously exhibited. There were also the usual variety of roots, and field and garden productions of excellent quality, and many beautiful and tempting specimens of fruits and flowers, showing that our neighbors are in the high road of progress in the luxurious and ornamental, as well as in the more strictly useful, productions. Added to these were numberless articles of fancy work, embroidery, paintings; indeed, pretty much all the gimcrackery that appears at our shows, and at the getting up of which the Canadians appear quite as perfect as ourselves.

Tedious as I am, I must not omit the dairy. There was a grand show of cheese, for Canada, although this is an article that has hitherto been little attended to in that region; but I am happy to add, that the show of butter would have been creditable anywhere. The Stilton cheeses of Mr. Parsons, of Guelph, were much admired; and when I cut the fine one which he presented me, you shall

be duly advised of its quality. [Please to send us a piece, that we may judge for ourselves.—ED.]

The morning of the second day opened as wet and unhappily as the first, but the people were all astir, and in good spirits. The Governor General had arrived on the previous day, and was to be on the show ground, after hearing the various addresses, from the different deputations of councils, societies, &c., &c., which were to wait upon him; for these Canadians, be it understood, are rather punctilious and ceremonious to their rulers, as all good and loyal subjects should be. The people therefore assembled in greater numbers than before, in defiance of continual rain and increased mud and mire, and the show ground by twelve o'clock contained several thousands; even ladies in carriages encountered the storm. Soon the Governor General, the Earl of Elgin, arrived accompanied by his Countess, Lady Elgin, and her sister, together with his official family, in carriages. Lord Elgin has an agreeable and active appearance, reminding me of our friend Gardiner G. Howland, Esq., of your city; is about forty years of age, and an accomplished man; quite an agriculturist at home upon his estates in Scotland, and very well versed, as I afterwards found, in the practical agriculture of the day. He ascended the stand and with the assembled multitude, listened to an excellent practical address from Mr. Thompson, the President of the society; then came down, mounted a horse, and together with the President and several other gentlemen, rode over the ground and looked at the various animals, and articles of exhibition, many of which he examined with interest, and at his departure, the show ended in a general breaking up and dispersion of spectators, competitors and stock, who exhibited altogether as dragged and melting an appearance, as so joyous and otherwise agreeable an occasion could permit.

In the evening, a grand dinner was served up in a building erected for the purpose, in the Court House Square, at which nearly or quite a thousand persons were present, the President of the society in the chair. The Governor General, the Chief Justice of the Province, and many other official dignitaries were present; and at the commencement of the toasts, Lady Elgin and several other ladies came in, and took their seats by the side of the tables, and remained till the feast was ended. Appropriate toasts were drunk, and numerous excellent speeches made, among which were two remarkably good ones by Lord Elgin, showing him to be a man of excellent sense, tact, observation, talent, and humor. "The New York State Agricultural Society, and our friends from that State," were toasted by the President, and received with great warmth of expression by the company, at which the band struck up "Yankee Doodle," with remarkable emphasis and unction, indicating that our efforts at agricultural improvement are heartily recognised among themselves. As no other New Yorker was present, the toast was responded to, after the fashion, by your humble servant, who felt that in the welcome he received, our own society has a strong, an honest, and a hearty co-laborer in our Canadian brethren.

At twelve o'clock, after a joyous, patriotic, sometimes noisy and uproarious, but altogether a

decorous sitting of some six hours, the President called on a gentleman present, to sing their grand national Anthem, of "God save the Queen," which was performed in capital style, the company standing, and all joining in its magnificent and spirit-stirring chorus. The company then adjourned with a health to its next social meeting. ●

On the subsequent day, the premiums were awarded, and the election of officers took place, of whom our excellent friend, the Hon. Adam Ferguson is President, and the place for the meeting of 1848, was appointed at Coburg. L. F. A.

LETTERS OF R. L. ALLEN.—No. 1.

Own sees and learns but little of farming in the hurried by-path travelling in the rail cars and steamboats of the present day. The passengers generally found on the route, are anything but agricultural in their pursuits or conversation; and the almost incredible distance passed over in twenty-four hours, more than half of which at this season of the year is done by night, would seem effectually to preclude any useful or practical observation for the benefit of agricultural readers.

We leave Jersey city, opposite New York at 5 o'clock, P. M., arrive in Philadelphia, by railroad and steamboat at 9½; leave again at 10, and reach Baltimore by railroad at 5 A. M., from which we again take the cars for Cumberland, at about 7, and reach the foot of the mountains at C., nearly 400 miles distant from New York, which we left but twenty-six hours previous. Even with the facility for rapid travelling, there are inconveniences and annoyances that render this route objectionable. The fare through New Jersey is enormously high for a great railroad route; the time of departure in Philadelphia is so soon after the regular hour for arrival, that the slightest hindrance throws the traveller over for a day. The cars between Philadelphia and Baltimore are mean and uncomfortable; and in getting into them from the ferry boat at Havre de Grace, we were drenched by a shower of water thrown into the passage way by the roofs, which the slightest attention on the part of the local hiring would have remedied. There is a petty charge by railroad at Philadelphia, for baggage exceeding 50 lbs., and this is levied between Cumberland and Brownsville, a distance of 78 miles by stage, at the rate of four cents per lb. for all baggage exceeding this amount, an exaction so enormous as to amount to gross, downright extortion. The route by stage too, is excessively dilatory, requiring nearly a day to perform the above distance over the national road; and but for feeing our driver at an immoderate rate, we should not have reached the Pittsburg boat in time, and thus should have lost an entire day, which most of those in our train were forced to submit to.

The farming properly coming under my notice on this route, was first exhibited some 20 miles beyond Baltimore. The country near the city—though here and there under high cultivation for the neighboring markets—is generally turned out to commons, and affords a scanty pasturage for the transient animals sent out to glean from it; while through the valley of the Patapsco, for an extent of nearly 20 miles, the road is so closely hemmed in by precipitous hills and cliffs on either side, as

scarcely to admit of tillage. The falls along this route afford large water power, which is occupied by thriving artisans in a continuous village of 3 or 4 miles. Beyond this, and between the Patapsco and the Potomac, the surface is undulating and the soil apparently thin. Much of what came under my observation, however, seemed to be in good cultivation; and it was not unusual to see large crops of Indian corn still remaining in shocks upon the fields where grown, followed by a very handsome growth of wheat or rye, intended for cropping the following year. This rapid succession of the grain crops, to yield well, as I am assured they do, implies a close attention to manures and thorough tillage. Lime has been largely introduced into this section of country, and its liberal use has resulted in rescuing immense bodies of land from a nearly worthless condition, and placing it in a highly productive and profitable state. More grazing, and especially the adoption of an extended sheep husbandry, in this and similar regions, would carry forward the system of renovation with all the rapidity and success of which it is capable. A few only of these useful animals meet the eye in passing; but these few showed decided evidence of good carcass and an excellent mutton sheep. The houses, farm buildings, and the general appearance of the fields, fences, and cultivation along nearly the entire railroad route, gave evidence of a thrift that implies both good crops and a good market; the latter of which is directly, and the former probably indirectly secured from the numerous manufacturing villages that have within a few years become so widely disseminated throughout Maryland.

The bottom lands on that part of the Potomac lying on our route, are not extensive, but seem to be under good management, both as meadows and tillage lands. The river itself, with its accompanying picturesque and variegated shores, affords a pleasing landscape, and is well calculated to gratify a well formed agricultural taste. The land on the Monocacy and around Frederick, was equally attractive and productive, and in this neighborhood are probably to be found some of the best and wealthiest farmers in the State.

Harper's Ferry, so highly and enthusiastically eulogized by Mr. Jefferson, for its wild and majestic scenery, strikes one on a slight observation as entitled to no extravagant commendation. The Shenandoah and Potomac, here somewhat diminutive streams—course along in a very leisurely way, each under a moderate sized but rugged hill, and as they approximate they glide into each other at an angle less than 90°. I looked in vain for grandeur and sublimity, and could hardly excite even a moderate degree of enthusiasm. In my opinion it cannot compare with the union of the Alleghany and Monongahela at Pittsburg, where the clear broad rushing stream from the north comes dashing on, and nearly at a right angle, compressing the deep, sluggish Monongahela within a few rods of its own shore. The difficulties of constructing the canal and railroad at this point, seem to have been much exaggerated; and on a slight observation they appear to be less than at Little Falls, New York, or at the Point of Rocks a few miles below. The tongue of land between the two streams is high and abrupt, and contains many good buildings

with an active population, busily engaged in other mechanical operations than the United States armory which, however, supplies a large share of the occupation of its citizens.

The following morning found us toiling up the mountains, which had been favored by quite a fall of snow, that now lay in scattered ridges through the fields and woods. They were cultivated to their tops, which here seemed neither rugged nor high. Even buildings, in close proximity, line the road to their summits. Laurel Hill, which is the last of these mountains, and seems rather a detached or isolated spur than a continuous chain, is an exception in cultivation. Its high, abrupt sides, which are surmounted by a gently winding but not steep ascent on either side, are too forbidding to have tempted the agriculturist hitherto; and they have been suffered to retain all the primitive wildness they exhibited to the eye of the youthful Washington, when he first led the hardy military pioneers across them, to vindicate the Anglo-Saxon claim to the valley of the Mississippi. What a result has followed this small beginning. Ere a century rolls around, more than 10,000,000 of that indomitable race will have become occupants of the soil then trod solely by the red man, the Spaniard, and the Gaul. This will be but the nucleus of a population yet destined to occupy a country, for its extent and uniform fertility, nowhere equalled on the face of the globe.

From the summit of Laurel Hill, in passing westward, the eye first rests on the fertile valley of the Monongahela. Apparently at our feet, but really some five miles distant, arises the pretty village of Uniontown. Around, and beyond it, as far as the vision extends, lie the green cultivated fields, or the brown-tinted forest, rising in a mingled succession of beautiful waves; and as the soft light and shadows incident to an Indian summer's sun lay over this wide-spread, billowy landscape, I thought it a combination of beauty and grandeur rarely if ever surpassed. In one of the open fields below, surrounded by a high but dilapidated paling, is shown the grave of Braddock. To this point he was brought after receiving his fatal wound near fort Duquesne, and buried in a concealed grave in their military road, to avoid exposure to the Indians. Thus fell a rash, conceited, headstrong man, whose vanity, stupidity, and pride (too often characteristic of men in power), brought murder and devastation on the helpless frontier settlements for years succeeding.

Innumerable droves of swine filled the roads between Cumberland and Morristown. They are generally reared in the south-western part of Pennsylvania, and driven to the former place, and there shipped on to the cars for Baltimore. They were mostly in moderate condition, and many of them what may be estimated as only good stock hogs, and in a proper state to take on fat advantageously. There is much waste in stopping at this point in the fattening of swine, as the greatest profit consists in carrying them rapidly forward to the highest point of maturity. The present leanness, however, where the animal has to be driven a long distance, is in a measure unavoidable. There is always a loss in driving a fat animal beyond his yard for slaughter.

I noticed a considerable proportion of Berkshires

among these droves, and had no idea they had made so much progress in this section. They were easily distinguishable in form and appearance, exclusive of color; and wherever they or their crosses were seen, I was sure to note good animals, generally the best in the herds, though there were a large proportion of good swine among them.

Pittsburg, Nov. 18, 1847.

MANAGEMENT OF HONEY BEES.—No. 15.

Drones, their Uses, &c.—Before I close my remarks upon the management of honey bees, without attempting to touch upon the natural history or physiology of this insect as it requires, I shall say a few words, relative to the nature and uses of *drones*, in connection with the *queen* and *workers*, which constitute the whole family of a colony of honey bees. The queen is the mother of the entire increase of every hive, and it is her sphere and duty, to deposit all the eggs, amounting to some 60,000 or 70,000 annually. She, in her wisdom, is the author of the specific number of drones necessary to a hive, and the workers, at her command, construct the proper cells for drones. They also construct all other cells, and nurse the young brood through every stage of infancy, till they are able to help themselves; and it is also their duty to gather all the stores of the colony.

The drones appear to be a superfluous legion, of no use at all; but rather a disadvantage. This class of the honey bee derive their name from their general lazy habits, spending their time in luxury, and feeding upon the stores gathered by the ever industrious workers. They are never seen to alight upon any flower, or doing anything to aid the prosperity of the colony. In one respect they are entirely different from the workers, having the liberty of entering different hives with perfect impunity, while a worker enters any hive but its own at the peril of its life. The drones are found to compare in numbers with the workers, as about *one to twenty*. Now, the question is, what are these apparently useless bees for? Would not our apiaries be generally benefited, could we banish these lazy drones from our hives? This may reasonably seem to be the case to one who has not become familiar with the natural history of the honey bee; but should we banish these bees from our hives, *depopulation* would speedily follow.

However mysterious the ways of animate nature may appear, nothing is created in vain. Nature, in order to ensure her legitimate objects of fructification, is ever profuse, often far exceeding the positive requirements of the case, as we may view it; but, after all, nature is right, and we are wrong. Look for instance, to the fructifying farina of the tassel of maize, that contains a thousand times the quantity that is necessary to give birth to the ears that brace each stalk around. The captious and precarious winds that are commissioned to waft this farina to its destiny, are not to be relied upon, hence the vast superabundance that nature has provided to render fertility sure. Not unlike this, is the legion of drones that lazily hang around our hives; and where a thousand exist, nine hundred and ninety-nine are perfectly useless, save upon the same principle of superabundance as shown forth above. The only object for which drones are brought into exist-

ence, is the *impregnation of the queen*. This is always done high on the wing, and when once effected, it is operative for an entire season.

The drones appear with the commencement of the swarming season. The first swarms go off with the old queen, whose impregnation is effectual from the last season, and for the prosperity of such swarms, no drones are needed; but not so with the young queens, that sally forth with after swarms. If there were no drones about the apiary, the hives would soon become entirely depopulated. It is of no consequence whether there be drones in every hive; for if there be one hive out of six, that contains them, it is probable that she would become prolific.

On the second or third day, after entering her new habitation, the queen takes an aerial flight, in search of drones, and having effected her object, returns to her domicile, and does not again leave until the following spring, when she goes off with the first swarm, lays the foundation of a successor to her sovereignty, and winds up her career in old age and death. In most species of winged insects, impregnation is effected, while *on the wing*, consequently this theory is plausible in itself; but when we take into consideration, that the drones *disappear*, as soon as the swarming season is past, our doubts ought to be entirely removed, if any exist. The drones, by a natural instinct, are ever flitting aloft, high on the wing in the vicinity of the apiary, with no apparent object; hence, when the queen sallies forth, she cannot miss the object of her excursion. Did a less number of drones exist, she would, perhaps, be frustrated in her object, and the colony, or family of bees be annihilated in consequence thereof.

The destruction of drones is effected as soon as there is no further necessity for them, which is at the end of the swarming season. This fact is strong proof of the object of their existence, as above stated. They are put out of the way by force, the workers *dipping their wings*, and casting them out of the hives. Perchance, some hives may permit the drones to exist till late in the season, for some purpose known only to themselves; but in general, they are destroyed at the termination of swarming.

T. B. MINER.

Ravenswood, L. I., January, 1848.

THE COTTON TRADE.

PROFESSOR C. F. McCAY, of the University of Georgia, in the December No. of that sterling periodical, *Hunt's Merchants' Magazine*, thus estimates the cotton crop of 1847, in the United States:

New Orleans and Texas, . . .	1,050,000 Bales.
Mobile,	425,000 "
Florida,	155,000 "
Georgia,	245,000 "
South Carolina,	350,000 "
Other places,	25,000 "

2,250,000

The demand for 1848 he estimates thus:—

Wants of the United States, . .	440,000 "
do Great Britain,	1,400,000 "
do in France of Am. Cot., . . .	300,000 "
Other exports from U. S. and Eng'd,	370,000 "

2,510,000 "

By comparing the supply and demand, it will be seen that they promise to be nearly the same. Prices may, therefore, be expected to be near their average rate, neither high nor low. If they should fall below this at any time, the increased consumption, with the present diminished stocks, would immediately bring up prices; while the experience of the last year shows that they cannot be kept higher without stopping the English factories, and thereby decreasing the consumption below the probable supplies. The prospects of the planter are good. A fair crop at fair prices is better for him than a large crop at low prices, or a short crop at high prices. The golden mean is better either than abundance or scarcity.

ICE HOUSES.

SINCE ice has been regarded an article of necessity almost as much as a luxury, during the enervating and oppressive heats of our long summers, so much has been written on the construction of ice houses, it may be presumed that but little can be said on the subject which is new. We still remain unaltered in our opinion (see p. 280, of our fourth volume), that the success of keeping ice depends entirely on a dry atmosphere, thorough drainage, and free, uninterrupted ventilation. We condemn the practice of constructing any part of the main chamber, or receptacle for the ice, below the surface of the ground, or of attempting to screen the roof of the house from the sun by the planting of trees. It will be remembered that we have already remarked that shade trees attract moisture, and that moisture melts ice ten times as fast as a hot wind or its exposure to the sun. Neither do we approve of the sides and back of the ice house being of earth, as that is moist too; and, instead of preserving the ice, as is often believed, it has a tendency to cause it to melt. An ice house, then, may be placed in an open, airy situation, on the bank of a lake or stream, or any other convenient spot, above the level of the ground, with good drainage and perfect ventilation. If well filled with solid blocks of ice, cut out of as large dimensions as convenient—for the larger they are the better they keep—these are all the essentials requisite to ensure complete success. As a proof of this, we have only to refer our readers to the buildings on Rockland Lake, near the west bank of the Hudson, and the old Congregational meeting house, at Wenham Lake, between Ipswich and Salem, in Massachusetts. These buildings are all of wood, lined with sawdust or tan bark, and standing high and entirely above the ground. It is the same with the large public ice houses in this city.

The best, cheapest, and safest mode of constructing an ice house for this country, is, to make a wooden frame, with posts about a foot thick and six or eight feet high, and then to plank up inside and out, filling the space between with sawdust, tan bark, or pulverized charcoal, over which a roof should be built with a pitch of at least 45°, made of rough slabs, small saplings, or other materials, and finally well thatched with straw of a thickness of twelve inches to a foot and a half. Whether the soil be porous or not, we would construct a plank or slab floor, about a foot above the ground, sufficiently open to admit a free passage of

all the melted ice. Beneath the floor, a ditch may be dug, running the entire length of the house, and leading to a lower level, perhaps of the adjoining lake or neighboring stream; or, instead of this

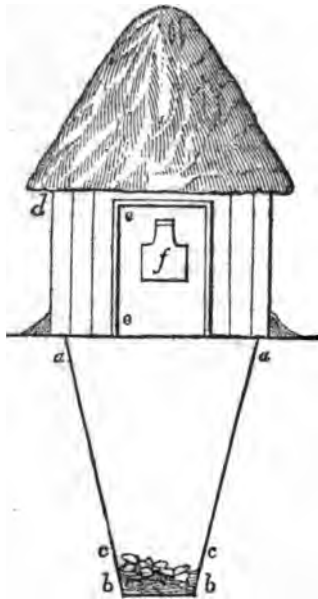


FIG. 5.

EXPLANATION.

a, a, b, b, c, c, Ditch or drain, partially or entirely filled with rubble or loose stones.

a, d, Planking of the main body of the house.

e, e, Entrance door.

f, Trap door.

Preparatory to filling the ice house, the floor should be covered with a bed of straw about a foot thick for the ice to rest upon. The operation of storing may commence as early in the season as the thickness of the ice will admit. The blocks may be sawed out about two feet square, and laid up like masonry, in a solid mass, impenetrable to the sun and air; and when the house is filled, the ice should be carefully covered up with a thick coating

as they are thrown in, and thus make the whole into a compact mass.

For the benefit of our readers, we give the following plan for the construction of ice houses, from Fortune's China, which confirms in a measure, the principles as advocated above. The trees in our engraving are not designed as requisite for the perfection of the plan, but are only added by the artist to give effect to the scene.

On the left bank of the Ning-po River, proceeding upwards from the town and forts of Chinghai, and in various other parts in the north of China, I have met with these ice houses. When I inspected them for the first time, in 1843, their construction and situation differed so much from what I had been accustomed to consider the essentials of an ice house at home, that I had great doubts of their efficiency; but at the present time, which is the end of August, 1844, many of these houses are yet full of ice, and seem to answer the end most admirably. You are probably aware, from my former descriptions of the country, that the town of Ning-po is built in the midst of a level plain, from 20 to 30 miles across, [in latitude 30° N., or about the same parallel as that of New Orleans.] These ice houses stand on the river sides, in the centres of this plain, completely exposed to the sun—a sun, too, very different in its effect from what we experience in England—clear, fierce, and burning,—which would try the efficiency of our best English ice houses, as well as it does the constitution of an Englishman in China.

The bottom of the ice house is nearly on a level with the surrounding fields, and is generally about 20 yards long by 14 broad. The walls, which are built with mud and stone, are very thick, 12 feet in height, and are, in fact, a kind of embankment rather than walls, having a door through them on one side, and a kind of sloping terrace on the other by which the ice can be thrown into the house. On the top of the walls or embankment, a tall span roof is raised, constructed of bamboos thickly thatched with straw, giving the whole an appearance exactly resembling an English haystack. And this is the simple structure which keeps ice so well during the summer months, under the burning sun of China! The Chinaman with his characteristic ingenuity, manages also to fill his ice house in a most simple

way, and at a very trifling expense. Around the house he has a small flat, level field, which he takes care to overflow in winter before the cold weather comes. It then freezes, and furnishes the necessary supply at the door. Again, in spring these same fields are plowed up, and planted with rice; and any water which comes from the bottom of the ice house is conveyed into them by a drain constructed for the purpose. Of course here, as in England, the ice is carefully covered up with a thick coating of straw



CHINESE ICE HOUSES.—FIG. 6.

of sawdust, or straw. In filling the house, if it be inconvenient to saw the ice into exact blocks, to match and lay up smooth within, like mason work, the lumps may be beaten down with heavy mallets,

when the house is filled. Thus the Chinamen, with little expense in building his ice house, and an economical mode of filling it, manages to secure an abundant supply for preserving his fish during the hot summer months. This, I believe, is the

only, or at least the principal purpose to which it is applied in this country, and never for cooling wine, water, or making ices, as we do in Europe.

It is now, I think, a question whether we could not build ice houses at less expense, and more efficient, upon the Chinese plan than upon the old underground system common in England.

I have since had frequent opportunities of testing the qualities of the Chinese ice house, both at Ning-po and also at Chusan and Shanghai, and I have found that it answers the purpose admirably. The winter of 1844-5 was unusually mild in this part of China; little or no ice was formed on the ponds and canals, and of course the ice houses could not be filled; but many of them contained large quantities which had been laid up the year before, and by this means the market was supplied with ice, which had been in store, at least a year and a half.

SWINE.—No. 1.

ALTHOUGH we have bred, reared, and fattened hundreds of pigs, and written many an essay upon them, we must confess that we perfectly detest the sight of a hog, unless he be of a particularly fine breed, and is kept in good condition, and in his proper place. Another thing, we do not and have not for years eaten the fat part of pork, and rarely the most delicate parts of the lean, for we believe it positively unhealthy, and more particularly so during hot weather; and for this reason it was unquestionably wisely prescribed by Moses, who says:—"And the swine, because it divideth the hoof, yet cheweth not the cud, it is unclean unto you—ye shall not eat of their flesh, nor touch their dead carcase."

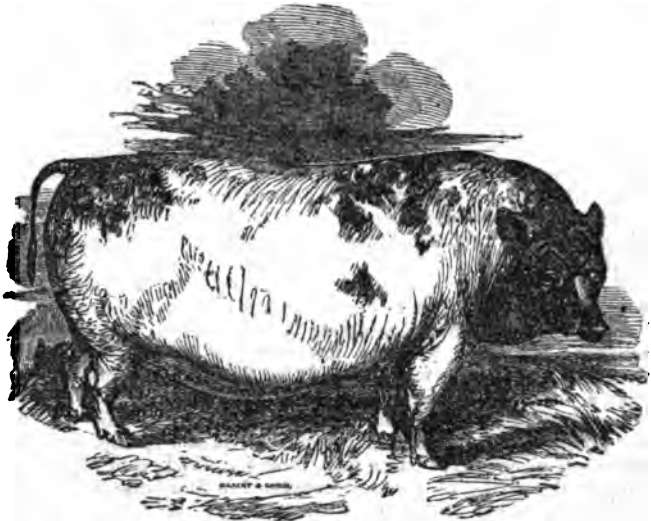
It has been repeatedly proved by accurate experiments, that pork and the fat of all kinds of meat, as well as lard and butter, are difficult of digestion; and we believe that they are often the direct cause of cutaneous and scorbutic diseases, scrofula and fever. Beef, mutton, and poultry are much more healthy and nutritious than pork, and should take the place of it in our food. But the laws of Moses, Mahomed, the Hindoos, and our own humble opinion we fear will have little weight with the public in our day. Swine are reared in immense numbers in America, and will continue to be fattened and eaten for generations to come. This being the case, the only thing for us to do, is to point out the best kinds for the farmer, and give him such information as may be serviceable in breeding, rearing, fattening, and marketing them.

Breed.—We know few subjects on which there is more twaddle and humbug annually written, than on that of the breed of swine. There is in reality but ONE *truly original fine breed*, and that is, the *Chinese*. All other breeds, as they are termed, of any particular value, are merely crosses of the Chinese on the wild hog, or the large, coarse domestic

hog of the country. We wish our readers to remember this; they will then have a correct starting point, and know the origin of all the improvements in breeding swine.

The Chinese.—These vary somewhat in shape and size, and are of various colors—white, gray, sandy, blue, dark copper, and jet black, with a greater or less mixture in spots of these different colors, produced unquestionably by crossing one with the other. The dark copper, commonly called the Siamese pigs, we have generally found the hardiest, most muscular, and best shaped. The pure white are often larger, but not of so good a constitution; and their pork is usually more oily and gross than the Siamese.

The following is a good portrait of such of the Chinese as are commonly imported into this country. We have often seen and bred much finer specimens, however, and are told by our friends, who have long resided in China that the best breeders there bestow great attention and study on this subject, and are particularly choice in their animals; but that it is extremely difficult to get these, and when obtained it is only by special favor of a Mandarin or some high public functionary. Those like Fig. 7, can be seen



A CHINESE SOW.—FIG. 7.

running about the streets of Canton, and are such as are generally put on board American ships for stores. We are thus particular that our readers may understand this subject fully. But the crosses of even the ugliest sway back and pot-bellied Chinese that can be found, on the common coarse slab-sided swine of the country, prove of great benefit, particularly in the second and third generation. These are frequently found in the neighborhood, and had we not witnessed the great improvement made by this cross, we should not have believed it possible to effect it with such unpromising materials.

Characteristics of the Chinese Pig.—The best of the Siamese or Chinese breed of swine, have a fine head and snout with the face somewhat dished; small, upright ears; compact, thick, deep carcass; large hams and shoulders; short limbs with delicate

feet; fine hair; thin, smooth skin; quick growth, with great aptitude to fatten at any age; and sweet, delicate meat. Added to these good qualities they possess a docile disposition; and will thrive and keep fat on less food, and that of the coarsest kind, than any other breed. Thus high bred they are rather delicate animals, susceptible of cold, shy breeders, and not very good nurses. They are consequently not so profitable a breed for the farmer as their crosses. For his stock hogs he wants an animal of larger size, stronger constitution, harder, more active, and yet thrifty, quick to mature, and reasonably fine in all its points. Of such breeds as we consider best for the farmer, and which have found most favor in our country, we shall treat in our next.

We wish to observe here, that we are indebted to the courtesy of Messrs. Lea & Blanchard of Philadelphia, for the cut used in the preceding page, and have several more of theirs on hand which will be introduced hereafter. They are from the recent re-publication of "The Pig," a treatise on the breeds, management, feeding, and medical treatment of swine, by William Youatt; a highly valuable and entertaining work, which we recommend every farmer to possess at once, as he cannot but be highly benefited by its perusal.

HINTS FOR THE SOUTH.

See an article from Mr. J. S. Peacocke, of East Feliciana, La., Vol. vi., page 340, of the Agriculturist.

Since you say "*a full reply*" to the inquiries of the article above alluded to will be given hereafter, it is perhaps superfluous in me to add anything; but a desultory remark or two, might perhaps be indulged in.

Mr. Peacocke says:—"We have to buy our own meat, both for our tables and our negroes." Who has to? Why, *the South*, according to your correspondent. Col. Fluker, and a few others of the "*most enterprising*," are exceptions; but they raise "*not a tithe of what they use*."

I wish Mr. Peacocke would make a tour throughout Mississippi, before he writes again, for he misrepresents us greatly. More than three fourths, I suppose five sixths, of the meat consumed in Mississippi, is raised within her own territory. In Louisiana, leaving out New Orleans, I presume they raise about three fifths of what they use. There is a considerable neighborhood of worn-out land in East Feliciana, and some of the thickest settlements of large plantations on the Mississippi, and the lower bayous, where they depend mostly upon the market for their provisions. But they do not constitute the "South." In this part of the country, which is the heaviest cotton region of this State, except around and between Natchez and Vicksburg, there is scarcely a good planter who does not raise his meat.

I have some acquaintance with farming in the West, and it is my opinion this is the best region for the raising of pork and beef, I have ever seen in the United States. If I had your correspondent here, I could show him on a very small plantation, two or three hundred grunners in a corn field, where was left some weeks ago, at least three hundred bushels of scattered corn, seventy-five acres very

heavily stocked with peas, ten acres of turnips, and a mass of pumpkins "too numerous to mention;" and it is confidently expected, that after a while, some of them will do to eat. And I assure your correspondent, that I am far from being "one of the most enterprising" in the way of meat raising, or anything else. A few days ago, one of my neighbors was saying he had more peas in the field, than all his stock could possibly eat before plowing time, a very common thing here; he had not yet put his hogs on them, for the reason that he thought they were *doing better* on acorns and sweet potatoes. "Buy our own meat," indeed! Come and take a cut of choice ham and bacon with us, and judge for yourself.

As to a recipe for hog raising, I can give a short one, not very scientific, but for practical purposes it will answer. Raise plenty of corn, peas, pumpkins, turnips, peaches (the best and cheapest summer food), and have a grass lot or two, with shade trees and water in it, for your hogs to run in. And lastly, if they run out in the mast, keep them well counted.

But "our negroes kill off the pigs, as fast as they appear." Well, ours don't. And if you will give yours as much meat as they can eat three times a day, I'll go their security that they will not either.

As to "negro clothing," I will just remark, I have written in times past and published in Mississippi, not less I suppose than fifty newspaper articles in favor of making bagging, blankets (comforters), and negro clothing at home. But it is *innovation*, and therefore wrong. Though I do not recollect to have seen an adverse argument attempted.

"I should like to know what is the best method of taking care of stock, which have to depend on what nature provides for them."

As to this matter, I would ask what kind of stock? Horses do very well with corn, oats, hay, pumpkins, and sweet potatoes. Let them be well stabled, and run in pasture occasionally. Cattle should run in a winter pasture adjacent to the pumpkin field, so they can be fed along the fence with pumpkins, hauled and thrown over. Use turnips in the same way. Let them run in the pea field, a day or two at a time, in dry weather, so that they will not injure the land by tramping upon it. Pea vines and sweet potatoe vines, saved like hay, make good winter food. Let sheep run in the pea field and grass lots. So much for your correspondent; now let me see you, Mr. Allen, and set you straight on a point or two.

"Apples, pears, cherries, peaches, &c., we believe do not well succeed in the latter," the Mississippi bottoms. You never made a greater mistake. There is not the least difference between the bottom and hill land, with regard to apples, peaches, and cherries, except the bottom is generally the richest. The two former succeed well, very well indeed. And as to peaches, the best, decidedly the best place in the United States to raise peaches, is the alluvial land of the Mississippi, and Yazoo. The next best place in the United States for peaches, is the hill country of Mississippi and Louisiana. As to the "&c.," I suppose you will allow me to understand you to mean quinces, plums, apricots,

figs, and nectarines. And in regard to each one of these, I assure you, sir, I know of no soil nor climate better adapted to their culture, than right here on the banks of the beautiful Yazoo.

Yazoo, Miss., Nov. 19, 1847.

R. ABBEY.

In our remarks alluded to above, we had particular reference to the *delta* from East Feliciana, to the mouth of the Mississippi. When we last visited that country, in 1842, we were very particular in our inquiries as to the growth of the pear, apple, peach, cherry, and quince; but could not learn that these fruits had then been cultivated at all in that region, with marked success. Nor did we in our rambles up and down the banks of the river, see growing anything more than now and then a stray tree of the kind, in and about a planter's garden; and these we were informed did not produce fruit of any account. But perhaps we were unfortunate in our observations and inquiries, and should be obliged if our correspondent, or any of our readers can inform us, what localities of the *bottom lands* in and below East Feliciana, produce good fruit of the above named varieties. In respect to the uplands of the South, we have long known that they produced the finest kinds of northern fruits; and as proof of this, our correspondent will find in an article which we wrote in Vol. 1, page 101, of the *Agriculturist*, entitled "Tour on the Mississippi," the following sentence: "Except a few varieties of the apple, which we have no doubt may be acclimated, *all sorts of fruit and vegetables that we have at the north, flourish here in the greatest perfection*, besides many known only in tropical climates." We also know that peaches are now raised in large quantities in the vicinity of Vicksburg, and other places in Mississippi, to be consumed at home or sent to the New Orleans market. Twenty years ago, when we first visited Alabama, we found an enterprising northern friend, busily engaged in setting out apples, pears, &c., which he afterwards informed us flourished remarkably well there. As to figs, having eaten many a luscious score of them at the South, plucked from the trees with our own hands, we could not but know that these grow well there. Apricots and nectarines, we do not recollect about.

THE NEXT SHOW AND FAIR OF THE STATE AGRICULTURAL SOCIETY.

We beg leave to say, in order to avoid all invidious remark, that the suggestions below are entirely our own; and are written without consultation with any one whatever. They are based solely on an intimate knowledge of Buffalo, and its vicinity; and suggest nothing more than what is due to the agriculture of that highly flourishing, and enterprising section of the State.

Speculation is already on foot, as to the best location for the next annual Cattle Show and Fair, of the New York State Agricultural Society. We have heard several places mentioned, to which there could be no objection, provided they had not already enjoyed the benefit of one show; they ought, therefore, to wait patiently their turn before laying claim to another; for we hold that there is no special *monopoly* in this matter. The society was established for the *general benefit* of the agricultural population; every section, therefore, which can get up

the proper *accommodation*, and is easily accessible by river, or by canal and railroad, is entitled to its turn in the benefit of these shows. As yet, Western New York has only had *one* show, which was in 1843, at Rochester, seventy-five miles east of Buffalo. Eastern New York has had *three* shows, viz., at Albany, Poughkeepsie, and Saratoga; and Central New York the same number, viz., Syracuse, Auburn, and Utica.

Now if we may be permitted to name a place, we say that Buffalo ought to have its turn next. It is contiguous to several of the largest and richest counties of the State, populated by a highly intelligent and enterprising class of farmers, who, in addition to growing the choicest samples of grain, are extensively engaged in productions of the dairy and in the rearing the best of improved stock of all kinds. We do not believe any town in the State can draw together so numerous and fine a show of stock and dairy products, as Buffalo. Extensive nurseries also have long been established there, and flowers, fruits, and vegetables, are abundant in its neighborhood. But to assist in the number and variety of the show of these, it would have Canada, and the whole lake region to Chicago; and we have no doubt, that these would be contributions from the Ohio River and its tributaries, as far south as Cincinnati. Manufactures are also abundant in the town and its vicinity, and a fair display of these might be anticipated.

Buffalo has a population of *over thirty-five thousand* inhabitants, and abounds with the best of hotels; all strangers, therefore, visiting the place upon such an occasion, would be sure to be well accommodated, and at reasonable charges. Then the facilities of getting there and back, are unsurpassed by any city in the State, save New York. It has several excellent McAdam roads, radiating considerable distances into the surrounding country; two railroads, one of which connects it with, and is the great thoroughfare to Albany; also canal, river, and lake navigation. What place now in the State combines superior advantages to Buffalo, for a large and varied agricultural display? Let the show be located there the first week in September, when the weather is almost certain to be fine, and we do not hesitate to say, that it will prove the best and most productive to the society, of any it has yet held.

But whatever the decision is in this matter, we hope it may not again be located off the great river, or canal, and railroad highway, between New York and Buffalo. It was tried once at Saratoga, and proved a miserable failure; disappointing nearly every one present by its meagre, and in some departments, most contemptible display. The location of these shows ought to be decided upon, by the Executive Committee. The Constitution has given them the power to do this, and that power they will be likely to exercise in a disinterested manner and for the *sole benefit* of the society. A popular meeting may sometimes get packed for a particular purpose, or it may be influenced by a few interested and active hotel keepers and speculators in the probable profits of a certain location for the show and fair; it behoves every member, therefore, to watch carefully over the Agricultural Society meetings, annually held at Albany, lest they should come under some such improper influence.

CULTURE OF THE GRAPE IN THE SOUTHERN STATES.

For the successful cultivation and abundant production of nearly all the fruits which more properly belong to temperate climates, the United States stand pre-eminent. In no part of the world, are apples found so abundantly as in this country; and *American apples* are celebrated throughout Northern Europe. In no part of France, or even Belgium, the country of pears, can that fruit be shown in so great perfection or abundance as in the vicinity of Boston, and the northern sea board. And even in England, the pear is so rare, that those of the *Chaumantelle* variety, grown in the island of Jersey, are sold in London, for five guineas per hundred. Peaches are luxuries found only upon the tables of the wealthy in northern Europe; and are mostly carefully cultivated on walls. Yet here, on Long Island, and further south, they are grown as easily as cabbages; and immense quantities of most delicious varieties, are sold during the season in New York market, at fifty cents to one dollar per bushel. Yet notwithstanding the great abundance of these fruits, and of the various kinds of melons, we are decidedly behind Europe, in the cultivation of the grape. This is doubtless owing in a great measure, to natural causes; but there is also a deficiency of well adapted experiments in those climates, which approach very nearly in temperature to those of the south of France and Italy.

There are many varieties of the grape indigenous to this country, yet with the exception of the *Isabella* and *Catawba*, they are nearly all worthless; and among the many varieties of native grapes, which are brought forward as something superior, we have never found one whose merits would entitle it to a place by the side of the *Isabella* and *Catawba*. The qualities of the *Isabella* are well known; with us the *Catawba* is its superior, and we have had specimens grown by a vine trained upon an old apple tree, and without pruning or cultivation, which would compare favorably with the black *Hamburg*. This variety will not, however, answer at Boston, or in many other situations; its ripening requires a longer season, and it is also more liable than the *Isabella* to the attacks of the rose bug. Between these two grapes and some of the foreign varieties, hybrids could doubtless be produced, which would possess the hardy character of the former, with the delicious qualities of the latter. In the production of these, there is a wide field open for experiment among amateurs of leisure; and I hope they will occupy it, for the pre-eminently delicious qualities of the grape render it particularly worthy of their attention. For our present purpose, however, we must rely upon the varieties which already exist, and which are produced in abundance in Europe.

I am aware that many of these varieties have been obtained by Southern gentlemen, and planted with care; and yet, notwithstanding the utmost attention, rot and mildew have been invariably their attendants. These experiments have, however, been made near the Southern sea board, where the atmosphere is continually charged with moisture from the large tracts of low and swampy lands, which exist there in every direction. I have never heard of these varieties being fairly tested, on the

high land in the interior; on the slopes of the *Alleghanies*, where the air is dry, clear, and bracing; and where one would suppose that no mildew nor rot could approach the fruit. Even at Aiken, only one hundred miles from Charleston, I was much struck with the dryness of the air, and its adaptation to the culture of the grape.

It is not, however, a dry air only that is necessary for the culture of the grape; the soil is an important requisite, and I deem our rich, retentive, alluvial virgin soil, by no means beneficial, if not positively injurious. A soil that has been repeatedly cultivated and turned up to the influence of the sun, or one that is slaty and porous, drawing the sun to the roots and carrying the moisture from them, is, even with a moderate degree of fertility, one of the very best. Of this latter character is much of the soil in the vineyards in France and Germany; and in these countries I have frequently seen hills, so steep that I could scarcely climb them, and whose soil was composed mainly of slaty stones, yet covered with vines to the very summits, and producing annually large crops of perfect fruit. I am inclined to think that there exists in our new and virgin soil, or rather perhaps arises from it, a miasmatic influence as poisonous to fruits as to human life; and this perhaps produces the mildew, which it is so difficult to drive from the grape and gooseberry, in the open air. I am rather strengthened in this opinion, by the fact that in England, where the soil, by repeated cultivation, has been purged of this miasma, the gooseberry arrives at great perfection, with scarcely a taint of mildew; and the black *Hamburg* grape also ripens well in the southern counties, in the open air. There it is, that the atmosphere rather than the soil is impregnated with moisture; for it is questionable whether more rain falls in England than in this country. There it rains gently, here the clouds pour forth their contents.

Moisture in the soil is doubtless one of the exciting causes of this miasma; but there are others, and a whole section must be purged of them before any particular locality therein can be made suitable for grape culture. Our Northern States have been longer and more highly cultivated generally than the Southern, and there is less alluvial character in the soil; thus it is that the *Isabella* rarely rots here on the vine, while at the South, I am informed, it very frequently does. I am thus inclined to think that the grape can never be successfully and extensively grown on the Southern sea board, until the whole country shall have been thoroughly drained and cultivated for at least a quarter of a century. The case is different, however, with the mountain slopes of the interior, where a large section of country can be found free from any of these miasmatic influences.

The special object of this article is, to encourage the culture of the grape in these sections of the South, from the Gulf of Mexico to the northern line of Virginia. It is only by repeated experiment, that the adaptation of any soil or climate to a particular variety of fruit, can be ascertained, and I hope some one at the South, or rather many in different parts of the South, will give this fruit that careful attention which success requires; and if the feasibility of its extensive culture there should once be satisfactorily decided, I am satisfied

that they will deem their labor very slight indeed, compared with the benefits and pleasure resulting from fine crops of delicious grapes.

We have growing under glass, about one hundred and thirty foreign varieties, and when they shall all have fruited, we may be able to present some variety eminently adapted for open culture. With our present experience, however, I think that the best five or six varieties for open culture at the South, are the black Hamburg, golden Chasselas, white sweetwater, Zinfandel, and the Frontignans. The two former are specially adapted to open culture as the black Hamburg ripens well against walls in the south of England, and the golden Chasselas in the vicinity of Paris. The Frontignans, I have seen growing very luxuriantly in the south of France, near Montpellier and Avignon, in some apparently low localities.

I have hastily thrown together these hints, with the hope that some of your Southern readers may be induced to take up the subject. My opinions of the cause of rot and mildew may be deemed mere speculation; but I think that they are in some measure warranted by familiar facts. Should any one be induced to make any experiments in grape culture, I hope the results may be communicated to the public through your pages.

S. B. PARSONS.

Flushing, Long Island.

YANKEE FARMING.—No. 1.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

What I am and what I propose.—I was born, reared, and still reside in A-gok-ne-quaw, one of the oldest towns in New England. Its boundaries are of unusual extent, embracing a great variety of soil, which being in the occupancy of persons of widely different minds and degrees of education, nearly every system of culture is practised here which may be found in the Northern States. This being the case, it has often occurred to me, that an exact account of the farming operations carried on at Agoknequaw—whether good, bad, or indifferent—if properly detailed, would prove no less interesting than instructive to the readers of the *Agriculturist*. Being the son of a plain, hard-working farmer, and brought up to daily toil myself, and having received no other education than the limited one acquired during the winter months at a common district school, and the occasional perusal of a book drawn from the venerable old town library, with two or three agricultural periodicals for the last few years, and some modern elementary agricultural works, I feel poorly qualified to undertake the task; but as I have frequently unsuccessfully endeavored to get those of superior minds and much better educated than myself to do it, I have at length lost all patience with them, and now make bold to hazard the attempt, trusting that the kindness of your readers will pardon all my deficiencies in carrying it into effect.

Description of A-gok-ne-quaw.—It is bounded on the east by the Neantik, a clear, broad, rapid river; on the south by an estuary of the sea, called Mohecan; and on the west and north by the broken

hills of Awashonk, the highest peaks of which may very properly be termed mountains. Quite a number of little streams spring from this range of hills, and take their sinuous course in different directions through the town, furnishing abundance of pure water to every farm around. Stretching along the Neantik, are wide intervals of a light, sandy soil, broken occasionally by rocky promontories; bordering the Mohecan, is a narrow strip of salt marsh; the valleys through which meander the small streams, with the exceptions of the boggy land, may be classed amongst the most fertile of meadows, and are well stored with rich peat and muck; the uplands generally are of a light gravel, varying to stiff clay, interspersed with a few cold springy hollows; while the hills are very stony, with ledges of hard shelly rock occasionally cropping out abruptly at the sides, and crowning with huge precipices the high mountain tops. Thus much for a preface and general description—now for particulars; and in giving these, in order to fully carry out my plan, it will be necessary for me to speak of persons as well as things.

Uncle Sim.—As I have a good deal to say about him, I shall first introduce to your readers' acquaintance, my nearest neighbor, Mr. Simeon Doolittle, whom we familiarly call "Uncle Sim." He stands full six feet high without his stockings; has sandy hair; small blue eyes, one of which he has the habit of cocking up very oddly when looking with particular earnestness; a florid complexion; prominent, rotund belly; and weighs about two hundred and seven pounds. He is industrious, economical, and kind hearted; tells a good story, and is fond of a joke, provided he himself is not the subject of it; but he is careless in much of his farm management; intensely prejudiced and obstinate; and occasionally is very irascible, especially when he has taken a little too much hard cider. Still he may be called a good neighbor; and though we sometimes have a little sparring, which I honestly wish could be avoided, yet upon the whole, we manage to get along pretty comfortably together. Notwithstanding he is some twenty years my senior, he always treats me with deference and attention; rather courts my society, and many is the social chat we have when we meet in the field, or interchange visits at each other's houses during the long winter evenings, regaling our farming talk over a bountiful dish of apples and nuts.

His Farm.—This is of moderate size, though of a mixed character; embracing poor and rich meadow, some good upland, with an inconsiderable quantity of hill. Of course his crops are various, but of the management of them hereafter.

His Young Stock.—Among other products of his farm, Uncle Sim cuts a considerable quantity of bog meadow hay, a poor, watery sort of grass, which he stacks upon his upland, and fodders out upon the ground to a stock of young cattle, which have no better shelter all winter, than they can find under the lee side of the fence which surrounds the stacks. The result is, although they go into winter quarters in tolerable condition, they come out miserably poor, requiring half the summer to recruit; and I doubt whether they gain an ounce per head from the middle of November to the first

of May, the usual foddering time for stock among us in this latitude.

His Steers—Among his young stock, are quite a number of steers, which he rears and breaks to the yoke; doing what work he wants with them, and then turns off for whatever he can get, the spring they come three years old. I have often endeavored to persuade Uncle Sim, that the way he manages his young stock, there could be no profit in raising it; that the work he got out of his ill fed, young things, was more trouble to him than it was worth; and that I would rather have one pair of strong, well fed cattle, than the whole of them. But my opinion was all in vain to him, and he ever combated it with great obstinacy, till the following incident somewhat staggered his faith in his own management.

How his Team of Steers, got stuck with a Log in the Snow.—Crossing my fields one clear, cold winter morning, just after a deep fall of snow, I heard a terrible hul-la-ba-loo, in a chorus of three voices, rising up from a hollow between some woodland and a gentle hill on my neighbor's premises, of "whoa, haw here, Bright—gee up there, Buck and Golden, come all on ye together now," followed by the peculiar "w-h-r-r-r," of our Yankee teamsters, mingled with the crack of whips, and now and then a shrill yell, which almost set my hair on end. Curiosity prompted me to run instantly to the top of the hill, to see what was the matter, when I found Uncle Sim, up to his knees in a stout pair of cow hide boots, drawn over his butternut colored cloth trousers, vest and coat to match, a linsey-woolsey frock over all, his head covered in a racoon fur cap, with the tail wagging gaily down over his shoulders, and flourishing a long whip which he applied without stint to his team, of seven yoke of steers, and an old mare for a leader, endeavoring with the aid of a couple of lads, equally well armed, to start a log which he had cut that morning and loaded on a bob sled. He had got thus far with it on his way to the saw mill, when at the first rise of ground, it unluckily stuck in the snow, and not another inch could they make it budge, notwithstanding all the joint whipping and shouting they had gone through with, in order to infuse more strength into the team. In fact, Uncle Sim's efforts to get his miserable cattle to move the log, by this time had nearly exhausted himself; for as I came up he paused in his exertions, planted his whipstall upright in the snow, took off his fur cap, and began wiping the dripping perspiration from his brow with the sleeve of his frock, seeming to be in great trouble and perplexity.

Our Conversation thereupon, with Hints on Stock Management and Feeding.—"Top of the morning to you, Uncle Sim," said I, in a somewhat jeering tone, although I felt sorry for him to the very bottom of my heart; "now you see what I have so often told you, all this comes from keeping too much stock and feeding it so poorly. If"—"Now just stop will ye, and look a here, Serjeant," he replied somewhat deprecatingly, for I beg your readers to understand, that I have the honor of holding an an orderly's warrant, in the second company of our town militia; "there grows the grass in the bog meadow, don't you see, and I must cut it, and when

stacked you know as well as I does, that it must be eat; wall, the old mare and colts won't touch it, nor the sheep nother, it dries up the cows from their milk, and as nothin' else will, the *steers must.*" These last words he pronounced very emphatically, and then slapped his right thigh with his stout dexter, gave a sort of grunting whistle, by way of taking breath, and then looked up with a significant cock of the eye, as much as to say, "there, if that ain't a settler, then I don't know what is." "As to cutting and stacking the bog grass," I replied, "there is no objection, though you need not have bog grass at all, if you would manage your meadows as I want to have you read they do in England; but of this hereafter. What I have so often contended for is, that you should run out a couple of rough sheds from the southeast and southwest corner of your big barn, thus enclosing an ample sunny yard well protected from the winds. Under these, your young stock would find comfortable shelter from storms and cold winds, then you could stack your hay close by, get one of the new fashioned, quick working hay cutters, and cut it up fine with your corn stalks, which nearly all go to waste now, wet these up and mix a little bran or meal with them, and then feed out bountifully in troughs, and you will get a hundred pounds' growth on the steers, where you don't get an ounce now; and they will be much stronger for their winters' work. You will also make much more manure than you now do; and mixed up with other matters in the yard, it will be more valuable than that left on the uplands round the stacks, to waste away in every rain, wind, and sun. Oh, you little know what a saving and comfort it would be all round. But here comes Major Goodell, quite easily along the road now, Uncle Sim, with his famous, smart yoke of oxen, and a log on his sled larger than yours, by a quarter; so I will just invite him to stop a minute, and give you a lift. If his cattle don't start your log all alone, and take it to the top of the hill"—"If they can," said he, rather snappishly, "then I'll acknowledge beat for once in my life; and what's more, I'll give my ox good here, with the log, new woodchuck lash at the end on't, into the bargain; and it cost me three good night's work to braid it. No, no; they can't do no sich a thing," continued he, shaking his head and stamping violently in the snow.

A Word about Titles and Major Goodell.—Our friend just spoken of, received his title from being *Drum Major* of our county regiment of militia; for you must know that we are very particular in New England, to give every man his title, and if he has none in his own right, by way of keeping him from being odd, we take care to dub him one. To be plain *Mister*, don't go down in this country. A man might as well be nobody; he must be distinguished somehow; it is his duty in this great, free, and enlightened republic of ours. I see you sneer a little now, Mr. Editor; but suppose the person before us, did get his title by *drumming*, has not many a man *drummed* himself up one before, and not half so *onest* either? Please to answer. But to the Major. He is a short, stubbed, little man, and shrewd as a d active; and as he steps along with a high military air, he carries his head rather fiercely and well up on the top of his back, as if he had

been a hard student of astronomy ; yet never mind, he is as smart as he looks, and what is more, he always drives the fattest, and rather the finest and best pair of cattle in town, so he is not to be sneezed at.

How the Log got out of its Difficulty.—Coming down to the Major, I stopped him, and related Uncle Sim's dilemma, when he smiled complacently, and very readily unhitched his team ; a splendid pair of Devon red cattle, with long, upturned horns ; sleek, glossy hair ; powerfully developed muscles ; and bones so fine, that they reminded me of those of a thorough bred race horse. It was really a pleasure to look at this high bred team ; for as he unhitched them from their load, they wheeled gracefully to the right, and marched into the field with the stately tread of a proud pair of highly disciplined grenadiers. Well might a man be proud to drive such a pair of cattle. Uncle Sim's team, of the old mare and seven yoke of steers, were now released from their fast sticking burden, and the Major's powerful reds hitched on in their place. Their master now patted them kindly on the back, then standing aside, gave one flourish around his head, of a small switch about three feet long, which he carried merely to guide his team, when at the single word "go," which he spoke in a quick, low tone, they instantly bent their necks to the yoke, gave a sudden twist, then a quick jump, and in less time than Uncle Sim could cock his astonished eye, they were at the top of the hill with his log. Lifting up both hands with profound amazement at this unexpected feat, he let them fall again, and then taking his ox goad, he tossed it with a whiz to the Major's feet, and said, "wall, who'd a thought it now ; them is a smart pair o' cattle of your'n, and you've won that whip any how. I wouldn't take three and ninepence for it, cash down on the nail—who'd a thought it—who'd a thought it. Wall, I guess there is somethin' in feed, arter all."—"Yes," I replied laughing, "and in stabling warm, and the curry comb and card, and in concentrating your force ; especially when you want to start a big log—heh ! Uncle Sim."

SERGEANT TELTRUE.

FOOD FOR PREGNANT ANIMALS.—Every animal, while pregnant, should not only be full fed, but care should be taken that the food be of a proper kind. Recollect that the growing fœtus has blood, flesh, and bones to form, as well as its mother ; and therefore a greater proportion than ordinary of the constituents which go to make these, must be supplied in the food of the dam, otherwise the fœtus will suffer, and the dam also. Sugar, starch, fibrin, gluten, and the phosphates are particularly wanted ; and happily all these are found in a mixture of good hay, grain of all kinds, and roots. But it is necessary that the pregnant animal be fed with the whole of each kind ; for the bran alone of wheat, rye, or corn, would not be sufficient, as these contain little of gluten, fibrin, or starch.

EXTRAORDINARY TROTTING IN TANDEM.—William S. Reed, recently trotted Grey Harry and Betsey Baker, harnessed in tandem, one mile round the Union Course, Long Island, *without a break*, in two minutes and forty-four seconds.

MONOGRAPHS OF VARIETIES OF FRUITS.

A THOROUGH, scientific examination of the capabilities of America, for the production of fruits, is yet to be made. Very little has been attempted, and much less performed, in examining the soil of different sections of our vast domain ; studying critically the effects of climate and soil, upon its productions ; and tracing the history and habits of the fruits, scattered through our widely extended orchards. Indeed, I have thought it strange, that the leisure and curious research of some of our many amateur cultivators and others, should never, have produced one thorough monograph of a single fruit. Let one example be taken, as illustrative of my meaning.

The Rhode Island Greening, is a standard apple. It has gone out from the North, to the South, as far as Virginia ; westward it will be found occasionally, as far down as Kentucky, and even Tennessee. It increases in abundance, as we come to the orchards of New England emigrants, until it reaches the extreme north of our territorial limits. It is thus cultivated in a range of twenty degrees of latitude, and nearly thirty of longitude. In this vast extent, it is found upon all geological formations ; at various degrees of elevation, and under exceedingly diverse climates. What is the natural history of this tree, under these conditions ? What is the effect of soils—of heat or cold, in different proportions—of special culture ? What is its *personal* history ? Who introduced it into various localities ; or what class of settlers ? If no one individual can be known, what remarkable trees have existed ? What sports, or prodigies are known ? What has been the nurseryman's experience of the various methods of *working* it ? What superiority or abatement of excellence, is manifested under special circumstances ? A comparison of its fruit in New England, the Middle States, the lower Western States, and the upper Western States. No enthusiastic pomologist, will ask of what use such a monograph could be. A minute study of any single variety would throw great light upon the obscurest part of pomology—the *habits* of trees. It would give more precision to the cultivation of fruits. It would afford many curious problems, or solutions of problems, in vegetable physiology.

Meanwhile, if those who have not the leisure to prepare such a work, will contribute any materials, disconnected and imperfect though they may be, they will indirectly prepare the way for some one hereafter to perform the work.

Just now the rage is for descriptions of fruit, accompanied by engravings. The first effort, of which we are informed, is that by Mr. Hoffs, of Philadelphia. To what extent it was executed we do not know. A beginning was made of a lithographic series, by Charles Elliott, of Cincinnati. One number only was issued. Boston publishes at this time, two series ; Mr. Hovey editing one, and the other coming out under the superintendence of a committee of the Massachusetts Horticultural Society. Mr. Downing, of Newburgh, is also putting through the press a similar work. At another time, it will be a pleasant task to examine the relative excellences of these costly contributions to

pomology. Could a better opportunity occur for monographs of the most thorough character?

H. W. BEECHER,

Brooklyn, N. Y. Dec. 1847.

We have the pleasure of announcing to our readers, that the Rev. Henry W. Beecher will be a regular contributor to our journal the present year. His articles will be principally on *pomology*, to which he has paid much attention. He is considered one of the best informed, and most original writers on this subject. Domestic affliction, in the loss of a promising child, and the engrossing cares of a new situation, have prevented his giving a more elaborate article for this month, as he had intended. Our readers will recollect that he has recently removed from Indiana, and is now installed as pastor of the Plymouth Church, at Brooklyn, one of the largest and most respectable, of that rapidly growing city. When a resident at the west, Mr. Beecher edited the *Indiana Farmer*, for several years, *en amateur*. The pomological articles which then appeared in that journal, were read with much interest, and very generally copied throughout the Union.

The exportation of fruit has at length grown up to no trifling item of our foreign commerce, while its consumption at home for the past few years has been greatly on the increase; it is highly proper, therefore, that more attention be given to its culture.

TAPLIN'S HORSE POWER.

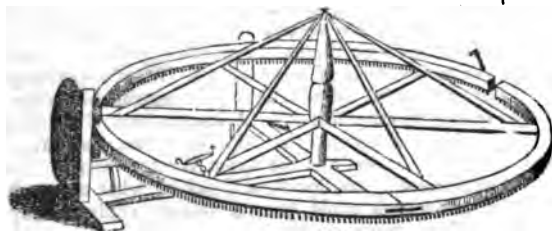


FIG. 8.

The best horse power, decidedly, with which we are acquainted, is that more commonly known among us as Taplin's. Figure 8, gives a good idea of it. It has a wooden rim or circle, from 18 to 20 feet in diameter, to which iron segments are bolted on the under side. These gear into a cog wheel, which revolving, turns a drum or pulley on the same shaft, which moves the machinery by a belt; or it may be geared on to the cog wheel by other cog wheels. The horses are attached to whiffle trees, hooked on to the arms close where they join the rim, and thus move the power as they travel round. It can be transported easily from place to place in a common farm wagon, and may be set up in twenty minutes, and taken down in half that time. It is simple in its construction, not liable to get out of order, and when so, is easily repaired. It may work in the open field, though it is better to have it under cover when stationary, especially during stormy or very hot weather.

When the team is to be attached to this power, take the pin out of the standard which keeps the rim up on a level, and lower one side of the rim to within two feet of the ground; now step a

horse over, then swing it round to the next hook for a whiffle tree and step over another horse, and so continue till as many are put on as are wanted.

For efficiency, durability, and simplicity, we prefer this power to all others. Price \$55 to \$75, according to size and quality. We recommend that size which costs highest, as the most serviceable, easiest worked, and cheapest in the end.

DRESSING WOUNDS.

EVERY farmer is liable to have his cattle wounded. Sometimes these wounds are dangerous from the loss of blood, or they leave unsightly swellings and scars; it is therefore highly necessary, that they should understand the best mode of dressing them.

The first thing to be done is, properly to secure the animal, so that it shall not be able to injure the operator; then the wounded parts should be carefully cleansed, and every foreign substance removed. If the wound bleeds profusely, especially if the blood flows in jets and is of a florid color, it shows that an artery is wounded, and this should be secured. The best mode to do this is, to apply a ligature to the bleeding vessel, that is, tie a small string round it if possible. If this can not be done, then take a wire about eight inches long, put one end in a round stick for a handle, bend the other end about an inch from the extremity like a hook, put this instrument in a fire and heat it to a white heat, and then sear the mouths of the bleeding vessels. This will generally stop the flow of blood at once. The parts should now be examined, and the shape

of the wound observed; then with a large needle, armed with a strong thread well twisted and waxed, take a stitch including the parts about half an inch from the edges of the wound; then tie in a bow knot. The first stitch should be taken in any angle or other definite point, so that the parts may be drawn exactly in their original position; after this, several other stitches may be taken about an inch from each other. When

they are all tied, perhaps some parts may not be properly adjusted; now untie the bow knots and draw them tighter until the edges are in opposition. Next scrape some lint from a piece of coarse linen and cover the wound, which should be secured in its situation by a proper bandage. *No other application is necessary*; for a wound bound up in its blood, and kept so without once removing the bandages till it gets well, will be cured quicker and leave a smaller scar, than in any other way. Salves and applications of all kinds, generally do more injury than good.

If there should be a difficulty in passing the ligature through the skin, a hole may first be made with a small awl. After four to six days, unless the weather be cold and unpleasant, these dressings may be removed, when generally the wound will be found perfectly healed.

VENERABLE APPLE TREE.—An apple tree, near Hartford, Connecticut, brought from England, and planted where it now stands *two hundred and eight years ago*, bore a small quantity of fruit the present season. The tree has only a mere shell of the trunk, with a few small green branches.

Ladies' Department.

HINTS TO MOTHERS.

I HAVE been very much gratified to see a portion of your columns appropriated to the contributions of the ladies; but I regret that so few competent, thorough going housewives are unwilling others should derive benefit from their experience. Any instruction in housewifery would be of more service than they imagine; for it is a lamentable fact that most young ladies have but a very superficial knowledge of housekeeping, till necessity compels them to learn. I do not believe there is any division of labor necessary for our support, which could be more benefited by good management, order, and punctuality, than that of the house; and there is none in which a judicious system would contribute more towards our happiness and comfort.

What is the reason that the daughters of some of our very best housewives, not unfrequently make improvident housekeepers, is a question I have often heard asked, but never satisfactorily answered. As far as my observation has extended, this difficulty is generally owing to their domestic education, and is of course chargeable in a great measure to the mother. In the first place, most mothers while their children are young, are obliged to perform a large share of their own work, and find it much easier, as well as more expeditious, to do it themselves, than to superintend the tardy performances of an awkward pair of little hands in their first attempts at housework. Consequently the young novice remains idle, or is constantly in school, until she loses all relish for useful employment. Others may be silly enough, although they have always been obliged to work themselves, to conceive it derogatory for a young lady even to *know how* to work; and I have known instances where the mother has labored as assiduously to prevent the necessity of her daughters taking part in the household services, as she would to preserve them from some terrible disgrace or calamity. From whichever cause the difficulty arises, the mother who willingly allows a daughter to marry with no other knowledge of housekeeping than has been acquired as a looker on, is doing her an incalculable injury, and deserves to be charged with a large share of folly and indiscretion, with half the unhappiness experienced by an ignorant young housekeeper; for it cannot be denied that much domestic discord has arisen from this very source. The young husband who had been bred to habits of order and punctuality, would feel his comfort very much abridged, if obliged to accommodate himself to the irregularity of his household affairs, if left entirely to the care of ordinary hirelings, to say nothing of the addition of expenses.

It is not necessary that a young lady should be drilled for half a dozen years in domestic service, in order to understand housekeeping; neither is it necessary that she should be deprived of reasonable recreation or amusement. If she has been accustomed to perform but a share in the different departments of labor in a well regulated family, she will have acquired all the knowledge necessary for a beginner, without any greater effect than will prove most salutary to the health of mind and body.

If ladies who have had some thirty or forty years' experience in housekeeping would occasionally impart a little of their experimental knowledge through the medium of agricultural journals, it would be highly appreciated by those who are just commencing on their "doubtful pilgrimage." I do not mean merely recipes for various kinds of cookery, but the best, easiest, and most economical method of doing all kinds of household labor; in a word, we want "Housekeeping made Easy."

A FARMER'S WIFE.

Onondaga Hill. N. Y., Nov. 1847.

THE EFFECTS OF COSMETICS ON THE SKIN.

SOAP containing a due proportion of alkali, exercises a solvent power upon the cuticle, a minute portion of which it dissolves; but when it contains a small preponderance of oily matter, as a principal part of the finer kinds of soap do, it mechanically softens the skin and promotes its smoothness. Almond, Naples, and Castile soaps are esteemed for these properties, and milk of roses, cold cream, and almond paste are used for a similar purpose. To produce an opposite effect on the skin and harden the cuticle, alcohol, Bay rum, *eau de Cologne*, acids, astringent salts, &c., are commonly employed. The frequent use of hard water has a similar effect. The application of the last-named articles is generally for the purpose of strengthening or preserving any given part of the system against the action of heat, cold, moisture, &c., as sore lips, chapped hands, or chilblains; but in this respect, oils, pomades, and oleaginous substances are preferable.

Another class of cosmetics is employed to give an artificial bloom, or delicacy to the skin. Rouge and carmine are the articles most generally used to communicate a red color. The former is the only substance that can be employed, without injury, to brighten a lady's complexion; though the latter imparts unrivalled beauty, it leaves a sallowness to the skin which it is difficult to remove. Starch powder may be employed to impart a white tint to the skin, and is perfectly harmless, as also is very finely powdered magnesia; but several metallic compounds sold at the shops, as trisnitrate, subchloride, and oxid of bismuth (pearl white), carbonate of lead (flake white), white precipitates, &c., frequently used to revive faded complexions, are not only injurious to the skin, but act as poisons, if taken up by the absorbents. The employment of liquid preparations, containing sugar of lead, which are commonly sold under the name of "milk of roses," "cream of roses," &c., is equally injurious. Another disadvantage of these white metallic preparations, is, that they readily turn black when exposed to the action of sulphuretted hydrogen gas, or the vapors of sulphur, which frequently escape from our coal fires. There are numerous instances on record, of a whole company being alarmed by the pearly complexion of one of its belles, suddenly changing into a sickly gray, blue, or black. But after all, the best purifiers of the skin are soap and water, followed by the use of a coarse cloth, instead of the costly and soft diapers, that are commonly employed; and the best beautifiers are health, exercise, and good temper. C.

Boys' Department.

WHY THE FIBRES OF COTTON ARE IMPROPER FOR SURGEON'S LINT.

It has long been observed that cotton cloth, however fine it may be, cannot, without injury, be substituted for linen in the preparation of surgeon's lint; and some authors, particularly Leuwenhoek, have imagined that they had found the reason of this, in the shape of the fibres of the cotton, which were conceived to have two flat sides, and that each of their minute parts must consequently have two acute angles or edges. These acute edges were conceived to be not only thinner and more subtle than the fleshy globules of which a wound is composed, but also more firm and stiff. Hence it was argued, that, upon the application of the fibres of cotton to a wound, their edges must not only hurt and irritate the globules of the flesh, but also incessantly cut the new matter brought to them to produce new flesh; whereas, on the contrary, it has been contended that the linen ordinarily used in wounds, is composed of little round parts, situated very close to each other, and when employed in large masses, is incapable of hurting or irritating the globular parts of the flesh.

The above explanation, which at best is ridiculous, has been admitted by authors of note on chemistry, notwithstanding it is obvious that the minute fibres of cotton, even if they were as sharp as supposed, could do but little harm when separated from the living flesh, by an inert coagulum or pus. Besides, the microscope assures us that this shape of the fibres of cotton exists only in the imaginations of those who have not observed them. The fibres of cotton consist of minute tubes analogous to the small hairs of the grasses, although much larger, which are ascertained to be merely elongated cells, closed at both ends, and filled with a substance tending to organize. They become flat by drying, after which they present the appearance of a band with fringed edges and a raised border. It is also certain that these bands or fibres of cotton are much more flexible than the tubes of hemp or flax. If then, the lint acted mechanically, that which is made of hemp or flax would be more hurtful than that which consists of cotton; and yet experience shows the contrary. We must then seek the explanation elsewhere, and a very natural one is to be found in the phenomena of capillary attraction. The fibres of hemp and flax are tubes open at both ends; and the watering to which they are usually subjected, empties them of all the juices which they contain. Those of cotton on the other hand, are hairs shut at both ends, and filled with a substance tending to organize, which no water nor washing can remove from them. It is, then, evident that the tubes of linen will be more proper than the hairs of cotton for imbibing blood or pus; for lint made of the latter will not imbibe anything, but will only allow a free passage among its fibres to any liquid which would have run off just in the same manner without it.

HOW TO SCOUR OR CLEAN CLOTH.—This is best done on a small scale, as for articles of wearing apparel, &c., by dissolving a little soap in water, and afterwards mixing it with a little ox gall, touching over all the spots of grease, dirt, &c., with

the mixture, and rubbing them well with a stiff brush until they are removed. After this, the article may be well rubbed all over with a brush or sponge, dipped into some warm water, to which the previous mixture and a little more ox gall has been added. When this has been properly done, it only remains to thoroughly rinse the article in clean water, until the latter passes off uncolored, when it must be hung up to dry.

MODE OF KEEPING A STOCK REGISTER.

PRESUMING you will not be unwilling to hear occasionally from a young correspondent, I have ventured to introduce myself to your notice in presenting, for the benefit of numerous worthy readers of this Department, who may find themselves unoccupied during some of these "nice long winter evenings," a few pages from my Stock Register, which may be explained as follows:—

The title page contains the name and residence of the owner.

The index shows the numbers and names of the animals, and the pages where they may be found.

Page 1, denotes the list or register belonging to a cow, called "Brindle," by way of distinction. It consists of three principal divisions, the two lower ones being subdivided. The upper one is appropriated for the name, number, birth, and pedigree; the middle, for the names of males she is put to, with the dates of such union; and the lower for the names and numbers of calves, with the times of their births. The narrow column at the left hand contains figures which correspond to each of the two lower divisions, so that if prefixed to a calf, it will show, by looking for the same in the middle divisions, its sire, etc., and *vice versa*.

Page 8, differs only from the preceding as regards the filling up of the middle divisions, females being inserted instead of males. The figures in the column are continued from page 7.

Page 30, is headed "calves." Four columns are there seen designated, for reference to this explanation, A, B, C, D.

A,	contains the numbers of calves.
B,	do names do.
C,	do number of dams.
D,	do concise remarks.

Here calves are entered soon after being dropped. Those considered of value as future breeders are named, whilst those sold to the butcher or others, are merely mentioned by their sex. The privileged ones remain in this list until they become parents, when they are transferred to the blank register in the preceding part of the book. A note of this transfer is made in column D, by a "V. p." For illustration, see Nos. 4, 5, 6, and 7. No. 8, a male, from No. 2, or Kathleen, is remarked as "B. 116, 4w. 3c," which simply means, "butchered weight," 116 pounds, 4 weeks old, 3 cents per pound. See also Nos. 9, 30 and 31. Dolly Varden (25) is seen to be noticed as "D. V. Mem.," meaning "dead, vide Memoranda." Nos. 28 and 29, are "S. J. Brown, 1w. \$5," or sold to J. Brown, 1 week old. Price \$6.

Page 40, is devoted to "Memoranda," or general Remarks more in detail than could be elsewhere allowed.

CALVIN COULTER JR.

October 29, 1847.

THE
Stock Register

OF
ALVIN COULTER,
HAWTHORN HEDGES,
N. J.

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1

BRINDLE (I.)

Feb. 14, 1838.
Dam, Lady Jane, by Charles.
d. 2, Molly, by
d. 2, ———, by Prince.

1	Robert,	July 28, 1840.
2	Robert,	Aug. 14, 1841.
3	R. Harrison's,	June 30, 1842.
4	G. Wilson's,	July 3, 1843.
5	Harvey Birch,	May 18, 1844.
6	Harvey Birch,	June 15, 1845.
7	Harvey Birch,	May 23, 1846.

1	Alice Lee (v.)	May 2, 1841.
2	H. Birch (vii.)	May 27, 1842.
3	Female (xi.)	Apr. 6, 1843.
4	Female (xii.)	Mar. 31, 1844.
5	Male (xix.)	Feb. 17, 1845.
6	Cherry (xxvii.)	Mar. 13, 1846.
7	Male (xxxii.)	Feb. 26, 1847.

8

HARVEY BIRCH (VII.)

May 27, 1842.
Dam, Brindle (i.) by Robert.

7	K. Nickleby (vi.)	May 28, 1845.
8	N. Dawson (iii.)	June 14, "
9	Brindle (i.)	June 15, "
10	Alice Lee (v.)	June 21, "
11	Peggy (iv.)	July 8, "
12	Kathleen (ii.)	Aug. 7, "

7	D. Varden (xxv.)	Mar. 2, 1846.
8	Rory O'More (xxvi.)	Mar. 18, "
9	Cherry (xxvii.)	Mar. 18, "
10	Female (xxviii.)	Mar. 28, "
11	Male (xxix.)	Apr. 12, "
12	Female (xxx.)	May 9, "

30

CALVES.

A.	B.	C.	D.
4	Peggy	1	V. p. 4.
5	Alice Lee,	2	" 5.
6	Kate Nickleby,	3	" 6.
7	Harvey Birch,	1	" 7, 8, 9.
8	Male,	2	B. 116, 4 w.—30.
9	Female,	3	B. 125, 4 w.—30.
26	Dolly Varden, ..	6	D. V. Mem.
26	Rory O'More, ..	2	
27	Cherry,	1	
28	Female,	5	S. J. Brown, 1 w.—\$5.00
29	Male,	4	" " 6-00
30	Female,	2	B. 123, 4 w.—40.
31	Male,	6	B. 130, 4 w.—40.

40

MEMORANDA.

1842. June 20.	Paid R. Harrison for use of bull—75c.
1843. Jan. 16.	Brindle dried off.
May 4.	Mr. Robinson Dr. to use of bull—50c.
Dec. 23.	Alice Lee (6) sick. Cleaned mouth with salt and pepper.
— 26.	— Well.
1844. Jan. 2.	Commenced feeding carrots.
1845. Aug. 30.	Dolly Varden (25) found dead in pasture. Cause unknown.
1847. Apr. 27.	Turned cows into Lot H.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Britannia*, we are in receipt of our foreign journals to the 19th of November.

MARKERS.—*Ashes*, a slight decline. *Cotton*, no change. *Flour and Meal*, firm at a small advance. *Provisions*, same as per our last, with the exception of *cheese*, which had fallen 2s. per cwt. *Wool* in better demand. Other articles of American produce, no change.

Money was a little easier, with a slight fall in the rate of interest. Failures still continue among the large houses, with innumerable small ones. However, the crisis was considered past, and we may look for better times per next steamer.

Disinfecting Fluid.—One of the greatest boons which chemistry could confer, at the present day, would be the discovery of some substance easily and cheaply procured, that would at once have the power of preventing the volatilization of the gases formed during animal and vegetable decomposition, and at the same time rendering them fitted for use as manures. Many substances, such as chlorine, nitrate of lead, gypsum, charcoal, and sulphate of iron, have long been known to possess the power of decomposing the noxious gases given out during putrefaction, and forming with them solid or fluid substances; but the expense, or the injurious nature of the reagents, is such, that the matter acted upon by them cannot be profitably employed as manure.

Public attention, however, in England, and particularly on Continental Europe, has recently been called to a preparation, originally used by Messrs. Dam of Brussels, and Coutaret of Paris, and patented by Charles F. Ellerman, late British Consul at Antwerp, which, the discoverers assert, possesses the desirable qualities mentioned above. Numerous experiments have been made in England, France, and Belgium, before public authorities and a number of scientific men, to test the efficacy of the "disinfecting" or "deodorizing" process, all of whom bear testimony to the perfect success of instantly rendering the substances inodorous, excepting the reagent itself, which emitted a faintly sourish smell. The agent employed is a fluid, which, on being added to night soil or other animal matter, in a state of decomposition, in the proportion of one part in eight to one part in thirty-two, immediately arrests the process and prevents the escape of those gases that give these substances their disagreeable odor. For the purpose, then, of disinfecting drains, cesspools, slaughter houses, hospitals, manure heaps, and other places, this process may be regarded as the most effective of any hitherto introduced.

The discoverers and patentee of this reagent speak in positive terms with regard to its value in manufacturing manure, but at present no experiments have been performed to test this point. The manure formed by this fluid in connection with night soil, blood, &c., is free from disagreeable odor, and greatly resembles poudrette; but, on account of the facility and rapidity with which it may be prepared, it is stated that it can be sold at a much cheaper rate. It is also asserted that the compound thus formed contains 4 per cent. of azote, whilst poudrette contains but 1½ per cent. It is conjectured that this fluid is a preparation of iron; and it is well known that sulphate of iron, as an agent for fixing the gases of decomposing organic matter, is, that the iron unites with the phosphoric acid of the compound and forms an insoluble phosphate of iron, thus depriving the manure of one of its most important constituents. Whether such a result occurs in the employment of this reagent or not, we must wait the result of experiment to determine. It may have sufficient good qualities to recommend it as a cheap and useful fertilizer, even though a portion of the phosphates should be thus rendered useless.

It is stated by Mr. Ellerman that one part of this fluid to one hundred parts of decomposing matter is sufficient

in most cases for the purpose of manure. Should it be found, then, to answer this use, and be sold at one shilling sterling (2½ cts.) per gallon, as offered by the patentee, it can but be regarded as one of the most important applications of chemistry to agriculture that has ever existed, however remote the age.

Age of Poultry.—Farmers usually sell poultry alive, excepting in some parts of the country, such as the Borders, where geese are killed and plucked for the sake of their feathers before being sent to market. Poulterers in towns, on the other hand, kill and pluck every sort of fowl for sale, so that the purchaser has it in his power to judge of the carcass; and if he buys an inferior article at a high price, it must be his own fault. It is easy to judge of a plucked fowl, whether old or young, by the state of the legs. If a hen's spur is hard, and the scales on the legs rough, she is old, whether you see her head or not; but the head will corroborate your observation, if the under bill is so stiff that you cannot bend it down, and the comb thick and rough. A young hen has only the rudiments of spurs, the scales on the legs smooth, glossy, and fresh colored, whatever the color may be, the claws tender and short, the under bill soft, and the comb thin and smooth. An old hen turkey has rough scales on the legs, callosities on the soles of the feet, and long strong claws; a young one the reverse of all these marks. When the feathers are on, and the old turkey cock has a long beard, a young one but a sprouting one; and when they are off, the smooth scales on the legs decide the point, besides difference of size in the wattles of the neck and in the elastic shot upon the nose. An old goose, when alive, is known by the rough legs, the strength of the wings, particularly at the pinions, the thickness and strength of the bill, and the firmness and thickness of the feathers; and when plucked, by the legs, pinions and bill, and the coarseness of the skin. Ducks are distinguished by the same means, but there is this difference, that a duckling's bill is much longer in proportion to the breadth of its head than an old duck. A young pigeon is discovered by its pale colored, smooth scaled, tender, collapsed feet, and the yellow long down interspersed among the feathers. A pigeon that can fly has always red colored legs and no down, and is then too old for use.—*Book of the Farm.*

Cultivation of Flax in Ireland.—A fine specimen of flax has been exhibited at Cork. The crop grown in Mayo has been estimated at £70 per ton. The tow sold for £38 per ton.

Hawarra Hops.—Hitherto we have been entirely dependant on importation from England and America for this essential article to the brewing of sound and wholesome beer. It is no stretch of the imagination to predict that in the course of four or five years our native growth of hops will supersede the necessity of importing them. From an estimate of the quantity of beer brewed in Australia, the annual consumption of hops cannot be less than fifty tons. A sample of colonial hops has been sent us, which, we are assured by those who are competent judges, may be put in competition with the best imported Kent hops, without losing anything by the comparison.—*Sydney paper.*

Swine in Portugal.—Besides the short squat thickset China hog prevalent in the northern provinces, there is another breed, remarkable for its size and long lanky flat sides, as though pressed between two deal boards, exceedingly high in bone, standing as high as any of our race of donkeys, but twice as long in body. Although very flat, this is inlaid, as it were, with flesh in due proportion, owing to the extraordinary mode of feeding, and the enormous exercise taken during their perigrinations, traversing many hundred miles through dense woods, deep valleys, and lofty mountains before returning to their homesteads to be slaughtered.—*Gardener's Chronicle.*

Editor's Table.

DUPLICATE ARTICLES.—Some of our correspondents are in the habit of sending us a copy of articles which they also forward to other periodicals for publication. We will say, with all due respect, that we want none such; for by publishing them simultaneously or after another paper, would make it appear as if we had copied it from such paper without giving it the proper credit. If, therefore, we cannot be furnished with articles written for and sent to our paper exclusively, we do not wish them at all.

IMPROVED STOCK FOR THE SOUTH.—We had the pleasure of forwarding, the past month, to Mr. E. R. Brown of Gallatin, Miss., two beautiful Devon heifers, and a noble pair, each, of Cotswold and South-down sheep. All these were bred by Mr. L. F. Allen, of Buffalo, and are excellent representatives of his fine stock. Mr. Brown ordered last year, a number of Merino sheep, selected from the flocks of our most noted breeders, and has at various other times purchased choice animals at the north. He certainly deserves great credit for his enterprise, and we trust that his efforts to improve the stock at the south will be crowned with marked success. We know not of a superior region of country in the United States, to the upper part of the State of Mississippi, for rearing stock; and we have no doubt that within ten years, it will become celebrated for its fine beef, mutton, pork, and perhaps even dairy products.

ANNUAL ADDRESS OF THE STATE AGRICULTURAL SOCIETY.—Professor Norton, of Yale College, is to deliver this address at the next annual meeting of the Society at Albany, on the 19th inst. We have no doubt that it will be an able and instructive one, and we bespeak a general attendance to hear it.

THE PICTORIAL HISTORY OF ENGLAND; being a History of the People as well as a History of the Kingdom. Illustrated by several hundred wood cuts of Monumental Records, Coins, Civil and Military Costume, Domestic Buildings, Furniture, and Ornaments; Cathedrals, and other great works of Architecture; Sports, and other Illustrations of Manners; Mechanical Inventions; Portraits of the Kings and Queens; and remarkable Historical Scenes. By George L. Craik and Charles McFarlane, assisted by other contributors. New York: Harper & Brothers. Vol. iii., pp. 886, large octavo. Price, 25 cents per number, or \$3.50 a volume. From what we have already said concerning this work, which, by general consent is pronounced the most reliable, accurate, and admirably arranged history of Great Britain that has ever appeared, it would seem superfluous for us to add anything more; but as its publication progresses, we become more familiar with its contents, new features in its pages are brought to mind, and we can speak more confidently of its merits. To read this work with care and attentively examine its illustrations, is in itself an education, and would be impossible for a man to accomplish without attaining some degree of refinement. Mr. Prescott, the learned author of "Ferdinand and Isabella," says:—"The pictorial illustrations are admirable, not merely as embellishments, but for the information they convey; sustaining the text in a manner that presents it still more vividly to the reader's mind; conveying, indeed, much of which, from the nature of the subject, it is impossible to give an adequate idea by description alone. The reader who has studied English history in the great works of Hume, Lingard, or Hallam, will find still much to be gleaned from a work like the present, which, with the narrative of events portrayed by these historians, combines the fruits of antiquarian and critical researches in walks which they have not entered. He will gather, in short, from the study of these volumes a more thorough and satisfactory view of the in-

terior organization of the country, its domestic resources, and its progress in civilization, than is to be found in any single work with which I am acquainted."

We would invite the special attention of the directors or trustees of libraries, as well as the agricultural community generally, to the preeminent claims of this sterling and most important publication; and repeat, that every family in our land, who can afford it, should avail themselves of its perusal.

THE FRUITS OF AMERICA; by C. M. Hovey, editor of the Magazine of Horticulture. Boston; Hovey & Co., 1 Merchant's Row, and C. M. Saxton, 205 Broadway, N. Y. Large octavo with colored engraving. Price \$1 a number. The third number of this superb work has been received and fully equals our expectations. It contains the description and figures of the Swan's Orange Pear; the Sweet Montmorenci Cherry; the Hovey's Seedling Strawberry; and the Boston Pine Strawberry.

THE SCIENTIFIC AMERICAN; a weekly newspaper, published by Munn & Co., 128 Fulton St., N. Y., at \$2 per annum, one half to be paid in advance, and the balance at the end of the year.

THE HEMP CROP.—A merchant of St. Louis, writing to the editor of the Cincinnati Gazette, says:—

"The most carefully formed estimates of the hemp crop of the Missouri River gives the product this year in round numbers, as, 13,000 tons. Add to this the product of the whole West beside, which may be set down at 17,000 tons, and you have an amount equal to 50,000 tons—from this deduct the quantity used in the West in manufactures, say 12,000 tons, and you have for export from 18 to 20,000 tons, or more than equal to the requirements of all northern seaports, and leaving a considerable quantity for export.

A HOGGISH CONVEYANCE.—A farmer of St. Alban's, Vermont, recently made a grand entrée into that place, mounted on a small car drawn by four large hogs. He entered the town at a brisk trot, amidst the acclamations of hundreds, who were soon drawn together to witness this uncommon spectacle. After making the tour of the market place three or four times, he went into the wood pack yard, had his swinish cattle unharnessed and taken into a stable together, where they were regaled with a trough full of beans and wash. They remained about two hours, while he dispatched his business as usual at the market, when they were put to and driven home again, multitudes cheering him. This man, it is said, has only had these animals under training six months. A gentleman on the spot offered him \$240 for the concern as it stood, but it was indignantly refused.—*Ex. Paper.*

STATE TOLLS ON THE N. Y. RAILROADS.—In examining the Freight Tariff made in reference to the law of the Legislature, which requires the railroad companies between Albany, Troy, and Buffalo, to pay to the State, canal tolls, distance being reckoned by the canal distances from place to place, it will be perceived that tolls are exacted, in several instances, on articles that would never pass through the canal at all, on account of their perishable natures. Of this class may be included fresh meat in carcass, poultry, fresh fish, clams and oysters in the shell, sheep pelts, &c. Another class of articles are taxed which are perishable, in part or would be very inconsiderable in quantity or in numbers, in their transit through the canal, as their demand is somewhat limited except during the suspension of navigation. Among this class may be reckoned live stock, butter, cheese, and eggs, to some extent, green apples, potatoes, lemons, oranges, pressed hay, field and garden seeds, &c., &c.

This tax, it must be remembered, is not levied at the expense of the railroad corporations, but has to be paid by the producers or consumers. It does seem to us that this subject demands public attention, and that these tolls should be established on equitable principles.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 15, 1847.

ASHES, Pots,.....	per 100 lbs.	\$5 50	to	\$5 56
Pearls,.....	do.	7 00		7 06
BALE ROPE,.....	lb.	5		6
BARK, Quercitron,.....	ton.	36 00		38 00
BEANS, White,.....	bush.	1 00		1 37
BRESWAX, Am. Yellow,.....	lb.	22		25
BOLT ROPE,.....	do.	11		12 1/2
BONES, ground,.....	bush.	45		55
BRISTLES, American,.....	lb.	25		65
BUTTER, Table,.....	do.	15		25
Shipping,.....	do.	9		15
CANDLES, Mould, Tallow,.....	do.	12		14
Sperm,.....	do.	25		36
Searic,.....	do.	30		25
CHEESE,.....	do.	5		10
COAL, Anthracite,.....	2000 lbs.	5 00		6 00
CORDAGE, American,.....	lb.	11		13
COTTON,.....	do.	6		9
COTTON BAGGING, Amer. hemp,.....	yard,	15		16
FEATHERS,.....	lb.	30		40
FLAX, American,.....	do.	7 1/2		9
FLOUR, Northern and Western,.....	do.	6 60		6 25
Fancy,.....	do.	6 50		7 00
Southern,.....	do.	6 00		6 25
Richmond City Mills,.....	do.	7 44		7 50
Buckwheat,.....	do.	—		—
Eye,.....	do.	4 33		4 50
GRAIN—Wheat, Western,.....	bush.	1 30		1 40
Southern,.....	do.	1 15		1 30
Eye,.....	do.	8 1		8 1
Corn, Northern,.....	do.	75		80
Southern,.....	do.	73		78
Barley,.....	do.	76		83
Oats, Northern,.....	do.	45		48
Southern,.....	do.	40		43
GUANO,.....	do.	2 50		3 00
HAY, in bales,.....	100 lbs.	58		60
HEMP, Russia, clean,.....	ton.	300 00		325 00
American, water-rotted,.....	do.	160 00		220 00
American, dew-rotted,.....	do.	140 00		200 00
HIDES, Dry Southern,.....	do.	7		8
HOPS,.....	lb.	6		9
HORNS,.....	100.	2 00		10 00
LEAD, pig,.....	do.	4 19		4 38
Sheet and bar,.....	lb.	4 1		5 1/2
MEAL, Corn,.....	bbl.	3 00		3 75
Corn,.....	hhd.	16 75		17 00
MOLASSES, New Orleans,.....	gal.	27		28
MUSTARD, American,.....	lb.	16		31
NAVAL STORES—Tar,.....	bbl.	2 00		2 25
Pitch,.....	do.	81		1 00
Rosin,.....	do.	80		75
Turpentine,.....	do.	2 36		2 50
Spirits Turpentine, Southern,.....	gal.	37		40
OIL, Linseed, American,.....	do.	58		60
Castor,.....	do.	1 30		1 35
Lard,.....	do.	85		90
OIL CAKE,.....	100 lbs.	1 95		1 50
PEAS, Field,.....	bush.	1 00		1 25
PLASTER OF PARIS,.....	ton.	9 25		3 00
Ground, in bbls,.....	of 300 lbs.	1 13		1 25
PROVISIONS—Beef, Mess,.....	bbl.	8 25		19 00
Prime,.....	do.	5 25		7 50
Smoked,.....	lb.	7		11
Rounds, in pickle,.....	do.	5		7
Pork, Mess,.....	bbl.	13 00		15 00
Prime,.....	do.	9 75		12 00
Lard,.....	lb.	10		11 1/2
Bacon sides, Smoked,.....	do.	6		8
In pickle,.....	do.	5		7
Hams, Smoked,.....	do.	8		13
Pickled,.....	do.	6		10
Shoulders, Smoked,.....	do.	6		9
Pickled,.....	do.	5		7
RICE,.....	100 lbs.	3 00		4 00
SALT,.....	sack.	1 40		1 50
Common,.....	bush.	20		35
SEEDS—Clover,.....	lb.	5		8
Timothy,.....	bush.	1 75		3 50
Flax, clean,.....	7 do.	10 00		11 00
rough,.....	do.	9 25		9 50
SODA, Ash, con'tg 80 per cent. soda,.....	lb.	3		3
Sulphate Soda, ground,.....	do.	1		—
SUGAR, New Orleans,.....	do.	6		9
SUMAC, American,.....	ton.	35 00		37 00
TALLOW,.....	lb.	8		9
TOBACCO,.....	do.	3		8
WHISKY, American,.....	gal.	26		28
WOOLS, Saxony,.....	lb.	35		60
Merino,.....	do.	30		35
Half blood,.....	do.	20		25
Common do,.....	do.	18		20

REMARKS.—Very little change has taken place since our last. Produce keeps up remarkably well. In the absence of no very great foreign demand.

Money continues tight, but it is thought it will be more abundant after the first week in January.

The Weather has been unprecedentedly mild and rainy during the month. The thermometer has ranged generally from 53° to 67°. No frost in the ground, and many of the farmers are plowing for the spring crops.

TO CORRESPONDENTS.—Communications have been received from Reviewer, Wm. Bacon Wm. Wheddon, A New Yorker, and Wm. H. Gotham.

ACKNOWLEDGMENTS.—A Treatise on Calcareous Manures, Third Edition, from Edmund Ruffin, Esq.

AMERICAN EGG-HATCHING MACHINE.

Patented Feb. 20, 1846.

AFTER 15 months of practical demonstration, the subscriber is enabled to present the above machine to the public with confidence, as an auxiliary to the wants of the farm house. It is so simple in its construction and management, that a child can in a short time superintend its operations, with about an hour's attention during the day; and it requires no care after bed time. Alcohol, or other high wines, is found to be the cheapest and cleanest fuel, and by repeated trials, the average expense of this kind of fuel does not exceed a quarter of a cent an egg, for the full term of twenty-one days. The chickens produced are healthy and strong, and their fine appearance has been the subject of general remark, among the many visitors (now) attending Saratoga. Full printed directions and explanations accompany each machine. The machines are durable, and can be sent with safety through any of the ordinary channels of conveyance.

PRICES.

No. 1, containing between 250 and 300 eggs,.... \$20
 " 2 " " 400 and 600 " 30
 " 3 " " 800 and 1000 " 40

§7. Rights for towns, counties, or states, will be disposed of on very reasonable terms.

Reference, Editor of American Agriculturist.

L. G. HOFFMAN.

Albany, Sept. 1, 1847.

d3t

TO PRACTICAL AND SCIENTIFIC FARMERS.

WANTED, a situation for an intelligent, well educated young man to learn farming as practiced in the United States. He is willing to make himself useful, and would expect no further remuneration for his services. Address (post paid), Alexander Kirkwood, care of
 Jlt*

A. B. ALLEN & CO., 187 Water st., N. Y.

ROCK SALT.

THIS Salt is as hard as alum, and is the best known. It comes in large lumps, and is the most suitable and economical kind for stock. It may be placed on the ground in the open field where it will be exposed for years to the weather with but little waste. It is the best kind to put in a rack, manger or trough, to be licked by horses, cattle, and sheep, as they may desire. By this means stock never get an excess, or suffer injury from its use. Price \$1 per hundred pounds, for a single barrel, or 75 cents per hundred pounds for larger quantities.

Jan. A. B. ALLEN & CO., 187 Water street, N. Y.

SCIONS FOR WINTER GRAFTING.

WM R. PRINCE & Co., Sole Proprietors of the Linnæan Botanic Garden and Nurseries, and of the only extensive Specimen Grounds of bearing Fruit Trees on this Island, will supply Scions at the following rates, and their accuracy is expressly guaranteed.

For not less than 40 varieties, that are priced at ordinary rates in our Catalogues, 25 cents per parcel, or 50 cents per dozen.

New varieties, priced over 50 cents in our Catalogues will be charged the same per parcel as for a tree.

Plentiful well known varieties will be supplied at \$20 down to \$10 per 1000, according to quantity and variety.

Scions of all trees and shrubs that grow from cuttings, will be supplied at proportionate rates.

Flushing, L. I., January 1, 1847.

16

PERUVIAN GUANO FOR SALE.

THE Peruvian Company having directed their agent in the United States, Mr. Bartlett, to raise the price of Guano to \$50 per ton, it will now be sold by us at the following prices:—

One ton or more..... 2 1/2 cts. per lb.

Smaller quantities..... 2 1/2 to 3 " do.

No allowance for tare, and no charge for packages. Cartage extra.

This Guano is warranted genuine, and direct from the Peruvian Company's agent. A. B. ALLEN & CO., 187 Water-street.

SUPERB GIFT BOOKS FOR 1848.

Thomson's Seasons. Illustrated with seventy-seven exquisite Designs by the Etching Club. Morocco gilt, \$4; Muslin gilt, \$2.75.

This is a rare book; it is all beauty—poem, print, illustrations, and binding.—*New York Tribune.*

Goldsmith's Poems. Illustrated with numerous exquisite designs by the Etching Club. Morocco gilt, \$3.75; Muslin gilt, \$2.50.

Milton's Poetical Works. Illustrated with 120 Engravings, from Drawings by Harvey. 2 vols. 8vo, morocco gilt, and muslin.

"The humblest thought, subjected to the alchemy of Milton's genius, became transmuted into something precious and costly. He was an enchanter who changed all the earthen edifices of the imagination into pure gold."

Pictorial Book of Common Prayer. Richly Embellished by several hundred Engravings. Morocco, extra gilt, \$8.

Bunyan's Pilgrim's Progress. Illustrated with 50 fine Engravings by Adams. With a life of the author, by Southey. Muslin gilt, 75 cents; paper, 50 cents.

A household book wherever the English language is known. *Biblical Repository.*

The Good Genius that turned all to Gold; Or, the Queen Bee and the Magic Dress. A Christmas Tale. Engravings. Fancy covers, gilt. 37½ cents.

A pleasant little fairy tale, full of pretty allegories, exemplifying the uses and importance of industry.—*Atlas.*

Harper's Illuminated Bible. Superbly Embellished with 1600 Illustrations, exquisitely engraved by Adams after designs by Chapman, with Frontispieces, Presentation Plate, Family Record, Title pages, &c. Superbly Bound in Morocco, super extra gilt. \$22.50.

A more fitting gift from parent to child—a more appropriate souvenir from friend to friend—cannot be imagined.—*Columbian.*

Pictorial History of England, down to the Reign of George III. Profusely Illustrated with many Hundred Engravings. 4 vols. Muslin. \$14. Three volumes are now ready.

A work altogether unapproached as a popular history of Great Britain.—*Albion.*

Harper's Illustrated Shakespeare. With Notes by Hon. G. C. Verplanck. Embellished by over 400 exquisite Engravings, after Designs by Meadows, Wier, and other eminent Artists. 3 vols. Morocco gilt, \$26; Muslin, \$18.

It will unquestionably be placed at the head of all the editions of Shakespeare ever published.—*Standard.*

Miller's Boy's Own Book of the Seasons. Comprising the Spring, Summer, Autumn, and Winter Books. Descriptive of the Season, Scenery, Rural Life, and Country Amusements. Embellished by numerous exquisite Engravings. 4 vols.—Muslin extra gilt, 50 cents each; paper, 37½ cents each.

Really charming books. The author is the most successful in describing rural scenery among the writers of the day. His scenes have all the freshness and beauty which characterize the sketches of Miss Mitford and Washington Irving. The engravings are all exquisite, and those printed in colors surpass everything hitherto attempted in that line.—*Professor Frost.*

Robinson Crusoe. Illustrated with 50 Engravings by Adams. Muslin gilt, 37½ cents.

This is a beautiful and complete edition of one of the universal favorites in English literature.

Evenings at Home; or, the Juvenile Budget Opened. With Engravings by Adams. Muslin gilt, 75 cents.

One of the best books for young people that has yet appeared in the world.—*Miss Edgeworth.*

The Life of Christ. Illustrated by numerous Engravings on Wood by Adams. Muslin gilt, 75 cents.

This elegant little volume presents, not only the Scripture narrative of the life of the Saviour, but also a complete harmony of the Gospels.

HARPER & BROTHERS, Publishers, New York.

STATIONERY, BLANK-BOOKS, AND WRITING PAPER.

Francis & Loutrel, No. 77 Maiden Lane, N. Y.

MANUFACTURE all kinds of Blank-Books and Stationery articles—Diamond-Point Gold Pens—Letter Copying-Presses—Manifold Letter-Writers—superior Croton-Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

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O. 28.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, FEBRUARY, 1848.

NO. II.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

CULTIVATION OF THE SWEET POTATO.

THE sweet potato (*Batatas edulis*), or some allied species, is a native of both Indies, and is now cultivated everywhere within the tropics, and is common to be met with in each of the temperate zones. There are numerous varieties, differing from each other, in the size, shape, color, and taste of the roots, as well as in the form, hairiness, or smoothness of the leaves, and color of the flowers. In the warmer parts of Asia, Africa, inter-tropical America, as well as in some of the southern states of the Union, the red-rooted varieties are in general cultivation, which are very deservedly esteemed for their large size, sweet flavor, and nutritious qualities; while in the temperate parts of Europe and of North and South America, the white and yellow-rooted sorts are almost exclusively raised.

In warm climates, this plant is cultivated in a similar manner as the common potato is with us, but requires much more room; for the trailing roots extend four or five feet each way, often sending out forty or fifty large tubers to a plant. In the middle and northern states of the Union, the potatoes should be planted in March or April, in a hot bed, or some other warm place, where, in two or three weeks, they will throw out a number of runners or sprouts, which, as soon as they reach a height of three or four inches above the surface, are taken off, transplanted into hills four or five feet apart, in open ground, where the soil is light, rich, and properly prepared, and subsequently may be hoed, earthed up, or treated in other respects like the common potato. The tubers may be dug and eaten as soon as they are large enough for use; but those intended for winter keeping, should not be disturbed before the vines are dead. In order to keep them during winter, until spring, they should be dried in the sun until the moisture is driven off, sweated in the heap, and when dry, packed in dry

sand and stored in a cool cellar, not subject to wet nor frost.

Sweet potatoes are considered a much lighter food than the common kind, and are equally nutritious. The young leaves and tender shoots are often boiled as pot herbs, and are esteemed as a wholesome food.

NOTES ON LONG ISLAND.—No. 1.

LAST July we had the pleasure of passing a week at Oyster Bay, and some of the adjoining towns of Long Island. We were domiciled for the time at the hospitable mansion of Mr. Daniel Youngs. His eldest son, Mr. Daniel K. Youngs, with a kindness and attention which we shall not soon forget, devoted his whole time, while we were there, to showing us the best system of farming practised in that part of the country. Had not so much already been said about Long Island in this journal, we could write out a long and interesting story of what we there saw and heard. As it is, we shall be obliged to confine ourselves principally to such short details as have not yet appeared.

Farm of Mr. Daniel Youngs.—We shall commence with a short sketch of the farm of our hospitable host. It comprises about 300 acres, generally of a light, loamy, or gravelly soil, though some fields are of a heavy loam, abounding more or less with loose stones of a suitable size for making walls. The farm lies partly on Oyster Bay, and partly on a fine ridge between it and Cold Spring Harbor. The situation is commanding and delightful. The house was erected in the year 1650, being the first built in the place. It was honored by receiving General Washington as a guest for one night, while on a tour through Long Island after the revolution. The inmates of the house still remember and practice the useful instructions that this great and good man then gave them in farming.

In order to show our readers the marked improvements which have taken place in farming on Long Island, we will relate what was told us by Mr. Youngs. Some 40 to 45 years ago, the general system practised on his own farm and around him, was, the first year to plow up the sod in the spring and plant corn without manure. From this they obtained 12 to 15 bushels per acre. Rye was sown broadcast, and harrowed in among this corn, in the month of August, and the following year produced 9 to 12 bushels per acre. Then the fields were allowed to be grown over with the natural grasses and weeds, and were pastured five or six years, by which time they got so well recruited, that they might be plowed again with the prospect of producing another crop of 12 to 15 bushels of corn per acre. The little manure which was made in the stables and yards, was usually devoted to a few acres of meadow land adjoining the farm buildings. These produced fair crops of hay, which were the main dependence for wintering the stock.

How changed now is this system. Swamps, the former products of which were nothing but frogs and alder bushes, have been drained, and found to abound from one to five feet deep with a rich, black muck, which will produce large crops of hay and corn, &c., for a series of years without manure; fish have been caught in great numbers and applied to the land; sea weed has been gathered in large quantities for the compost heaps; while thousands of bushels of ashes, and sloop load after sloop load of city manure from New York, have been transported thither, and recently guano to some extent. And what is the result? Why, the same land that formerly averaged only half a ton of hay to the acre, now cuts 2 to 3 tons; corn which produced not over 10 to 15 bushels per acre, now yields from 35 to 60—and the smaller grains and roots have increased in like proportion. But much larger isolated crops have been raised than these. For example, Mr. Daniel K. Youngs, has raised 80 bushels of oats and 100 bushels of corn per acre, and 550 bushels of carrots on half an acre. Mr. Thomas F. Youngs, raised on one acre of drained swamp 123½ bushels of corn. Mr. Jacob Smith, of Centre Island, raised 400 bushels of wheat on ten acres, and a single acre produced him 50 bushels. We could enumerate many an acreable production equal to the above. The quantities were not guessed at either. With these increased productions other improvements have gone hand in hand, such as better fences, and buildings, &c.; for Long Island farmers tell us the general result of this system of liberal manuring is, that the more manure they purchase the more they are able to buy and make at home. We have no doubt that their outlays for manure yield them from ten to one hundred per cent. We will recount one instance of liberal manuring. A friend of ours, who began life with less than one thousand dollars, and who has brought up reputably and well educated, a large family, and has now become rich from the profits of farming alone, informed us, that one season he expended \$900 for city manure, all of which he put on twenty acres of land; that he had not a doubt but this manure increased the hay product of that field at least one and a half tons per acre, but he would only calculate it at one ton. Hay was then

worth for a series of six years the average price of \$15 per ton; thus he realized \$1,800 more within that six years than he otherwise would have done, had he not purchased the manure. He calculated that the grass this field produced, which he fed off after mowing, was an equivalent for the extra expense of cutting and marketing this extra ton per acre; and the land at the end of the six years was in much better condition than it was before he put on the \$900 worth of manure. It is true, that hay for the past few years has not paid so well; but that does not operate against the general experience of the farmers of this part of Long Island, that the more manure they judiciously purchase, the greater their profits.

In addition to managing their farm in a superior manner, the sons of Mr. Youngs are devoting considerable attention to fruit and garden vegetables for the city market. They have just begun a vineyard of some extent. The vines are trailed upon trellises and promise well.

Their system of raising calves is excellent. In the first place, they have taken pains to procure a good breed of cows—high grade Durhams. The calves are not permitted to suck, but are fed new milk the first week or two. After this, they have a mixture of new and skim milk for the same length of time, then skim milk alone, till six or eight weeks old. All this time they are suffered to run in a grass pasture, and at the end of a month and a half, or two months, they become so accustomed to eat grass, which should be sweet and tender, that they henceforth take care of themselves without further resort to the milk pail. These are permitted to bring calves the spring they are two years old, at which time, such is the early maturing qualities of the Durham breed, they will have attained the growth of good sized cows. Under this system, and by breeding from good milking families of male and female, their heifers almost universally make good milkers.

Farm of Mr. Thomas F. Youngs.—This farm lies a little back of Oyster Bay, running down to Cold Spring Harbor, and comprises about 400 acres in one body. It is certainly one of the most beautifully situated and highly cultivated on Long Island. The buildings, also, are very fine and commodious. The rotation and crops here, are similar to those of the best farmers of Long Island, heretofore described in this paper. Mr. Y. has been uncommonly spirited in his improvements. He has drained a large swamp, which previous to his possession of the farm, had never produced anything of value. It was here where he grew the second year after draining it, 123½ bushels of corn per acre. It is now one of the richest and most productive fields on the island. These are the improvements that we so much like, and which add largely not only to the productive wealth, but to the general health of the country. How many fetid pools, and fever and ague marshes still pervade the state, which if drained and cultivated, would become mines of wealth to their owners!

Mr. Y. pays considerable attention to fruit, and has very fine and thrifty orchards. His apples are considered among the largest and best raised on Long Island. His stock of cattle is superior. They are Durhams, descended chiefly from the importa-

tions of Mr. Charles Henry Hall of New York. The cows are noble animals, well bred, and excellent milkers.

Farm of Mr. Joseph Latting.—This is one of the few farms on Long Island which is still chiefly devoted to the production of wool. Formerly large flocks of fine-wooled sheep were kept here; but the low price of the article, in consequence of the great competition from the boundless prairies of the west, has obliged the farmers here, generally to relinquish the wool-growing business for something more profitable. Mr. Latting's farm contains 150 acres. His flock is composed of about 300 Saxon sheep, which are among the largest and strongest of this breed we have yet seen. Their wool is fine, and the fleeces average 2½ lbs. per head. His system is to plow up sod in the spring, which has been pastured a few years by the sheep; on this he sows oats or wheat and gets good crops. He raises his own corn, hay, &c., and sells wool to the amount of \$300 per annum. This is his chief selling product. The farm is in fine condition and well managed. The buildings are excellent and surrounded by large thrifty orchards.

Locust Groves.—While on the subject of sheep, it may not be unknown to our readers, that locust groves may be grown on very poor soil, averaging from \$4 to \$7 worth of timber per annum, per acre, and still yield as much grass for sheep as if no trees grew there; and all this time the land is becoming richer rather than poorer. The reason of this is, that if the light sandy soil is not covered with shade trees, the grass, except during a very wet season, dries up and yields little. The trees keep the ground cool and moist, and the grass continues growing all summer. We are of opinion that if a top dressing of two or three bushels per acre of plaster of Paris were sown early in the spring, it would add considerably to the grass product. We have known instances of locust groves on Long Island, growing up to be worth \$300 per acre, within forty years. Nothing can exceed their beauty and comfort as sheep pastures.

APPLE ORCHARDS.—No. 6.

Accidents, Diseases, &c.—The apple tree, as a standard, is more liable to accidents, the attacks of insects, and to diseases, than the pear tree. Its branches are more frequently broken by tempestuous winds, whereby their wounded parts, in being exposed to the vicissitudes of the weather, sooner decay, and tend greatly to lessen the productiveness and duration of the tree. When situated near the borders of woods, orchards are often injured by the American grouse, or partridge (*Tetrao umbellus*), which greedily devours the flower buds, in winter, when the ground is covered with snow. The apple tree is also subject to canker; more especially when planted deep, or in a soil which is annually dug round it to some depth, and cropped with vegetables. In some soils, also, particularly those which contain much oxide of iron, the tree is liable to canker under any mode of culture; and the remedy, or palliative, in such soils, is liming abundantly, to neutralize the oxide; and planting on the surface, without digging the ground, but only hoeing, or keeping it entirely in pasture. The trunk and branches in some soils, and in moist

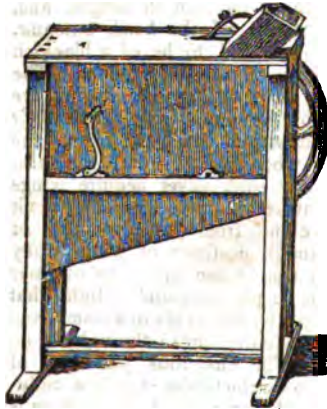
situations, are liable to be infested with lichens and moss, which must be scraped off; and in others, the mistletoe is apt to take root, which must be cut out. The fungus (*Ecidium cancollatum*), which also grows on the leaves of the pear tree, and produces what is called *mildew*, is not unfrequent on those of the apple tree.

American Blight.—The leaves, flowers, fruit, and wood of the apple tree are subject to the attacks of numerous insects, or their larvæ, against which there are few or no remedies. One of the most common enemies to this tree in Europe, particularly in England, is the cotton insect, or woolly aphid (*Aphis lanigera*, of Linnaeus and *Eriosoma mali*, of Leach). This insect was first described by Hausmann, in 1801, as infesting the orchards of Germany; but it was noticed in England as early as the year 1787, and has since acquired in that country, though improperly, the name of "American blight," from the belief that it had been imported from America. Although it exists in the United States, it is exceedingly rare; but it is thought not to be indigenous, but was brought to this country on fruit trees from Europe. It appears to have been known, also, by the French gardeners for a long time previous to either of the above named dates; and according to Mr. Rennie, it is found in the orchards in the vicinity of Harfleur, in Normandy, and is very destructive to the trees in the department of Calvados. The eggs of this insect are so small that they cannot be distinguished without the aid of a microscope. They are enveloped in a cotton-like substance, furnished by the body of the insect, and are deposited in the forks of the branches, and in the chinks of the bark, at or near the surface of the ground, especially if there are suckers springing from that place. The young, when first hatched, are covered with a very short, fine down, and appear, in the spring of the year, like so many little specks of mould. As the season advances, and the insects increase in size, their downy coats become more distinct, and grow in length daily. This down is very easily removed, adheres to the fingers when touched, and appears to issue from all the pores of the skin of the abdomen. When fully grown, the insects of the first brood are one tenth of an inch in length, and, when the down is rubbed off, the head, antennæ, sucker, and shins, are found to be of a blackish color, and the abdomen of a honey yellow. The young are produced alive during the summer, are buried in masses of the down, and derive their nourishment from the sap of the bark and of the alburnum or young wood directly under the bark. The adult insects, it is said, never acquire wings nor honey tubes, but from time to time, they emit drops of an adhesive fluid from the extremities of their bodies. Although destitute of wings, they are conveyed from tree to tree by means of their long down, which is so plentiful and so light, that they are easily wafted by the winds of autumn, and thus the evil will gradually spread throughout an extensive orchard. The numerous punctures of these insects produce on the tender shoots a cellular appearance, and wherever a colony of them is established warts or excrescences arise on the bark; the limbs thus attacked, become sickly, the leaves turn yellow and drop off; and, as the infection

spreads from limb to limb, the whole tree becomes diseased, and eventually perishes. A writer in the London "Entomological Magazine" describes the mode of propagation of this insect, and gives a method of destroying it as follows:—"These blights wander wherever it pleases the wind to carry them; and, if bad luck should drive one of them against the branch of an apple tree, there it will stick, creep into a crack in the bark, bring forth its young, and found a colony. The white cotton soon appears in large bunches; branch after branch becomes infected; the tree grows cankered, pines, and dies. How this is effected, no one knows, though the cause and effect are too evident to escape the notice of the commonest clown. In large orchards, it is vain to hope for a cure; but not so in gardens. Directly you see the least morsel of cotton, make up your mind to a little trouble, and you will get rid of it. In the first place, get a plasterer's white-washing brush; then get a large pot of double size; make your man heat it, till it is quite liquid; then go with him into the garden, and see that he paints over every patch of white, though not bigger than a sixpence; the next morning have the size pot heated again, and have another hunt; and keep on doing so every morning for a fortnight. Your man will tell you it's no use—tell him that's your business not his. Your neighbors will laugh at you for your pains—do it before they are up. I have tried it, and know it to be effectual. Spirit of tar has been used with partial effect; so also has resin. White washing has been often tried, and, as it contains some size, is not entirely useless; and some horticulturists think it ornamental—I do not."

CORN SHELLERS.

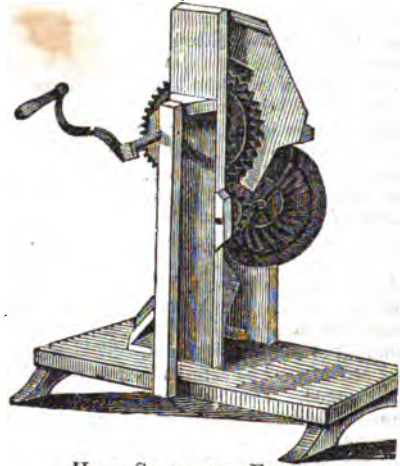
Numerous have been the attempts to construct a machine which shall supersede the old fashioned mode of separating the kernel from the corn cob, by means of the long handle of a frying pan, or the blade of a shovel laid across a tub; but they have nearly all been objectionable either from total inefficiency, or from the liability constantly to get out of repair. Among a great number, however, there are various patterns of different capacities



HAND CORN SHELLER.—FIG. 9.

This machine is preferable to the former, as any one can repair it when broken, and the grain does

not fly, or scatter, as it is shelled, as it does without the case. It will shell from 100 to 150 bushels of corn per day, when operated only by one man. Price from \$6.50 to \$7.50.



HAND SHELLER.—FIG. 10.

There is another kind of sheller, denoted by Fig. 10, which has been somewhat in use, and considered as a very efficient hand machine; but it is much less perfect in its operations than the one described above. Price from \$7 to \$7.50

CULTURE OF ASPARAGUS.

The finest asparagus produced in this vicinity, or at least that which brings the highest price in our markets, is grown by Mr. Daniel Smith, at Matinecock, Long Island. The asparagus bed contains about three acres, and lies on the bay, about ten feet above high-water mark.

The method of culture is simply thus: Early in March, Mr. S. cuts off the tops of the asparagus, and then gives the land a thick coat of barn yard or city manure. As soon after the frost is out, and the ground is dry enough, he plows up the whole field about nine inches deep, just as he would any field for a crop of corn, and without regard to cutting the asparagus roots. He then harrows and rolls the field, leaving the asparagus to shoot up at will.

The variety of asparagus which Mr. S. cultivates, he thinks highly of; but we are of opinion that the soil and situation happen to be exactly of the right kind to produce a first rate article. It is a free, deep, rich loam, unquestionably well impregnated with salt. It ought to be analyzed as well as the asparagus plant. We should then know what constitutes a good asparagus soil. Will not some rich citizen, who is particularly fond of asparagus, contribute a few dollars for such an analysis? How many thousands of dollars are annually thrown away in this city, on miserable tom-fooleries, which might be expended in the advancement of the science of horticulture.

Any of our readers desirous of tasting this asparagus, will find it at Clark & Brown's, Maiden Lane. A single bunch of thirty shoots unfrequently weighs 4½ lbs.

GROWING FIGS AT THE SOUTH.

A CORRESPONDENT in Alabama inquires of us the method of drying figs for the market. He says that this delicious fruit grows spontaneously in his vicinity, and thinks that it may in future become a profitable article of culture. We give below the modes generally adopted in the south of Europe, and should feel obliged to any of our southern friends for such practical information on the subject as may be in their power to impart.

Those figs that are intended to be dried, are left on the tree till they are dead ripe, which is known by a drop of sweet liquid hanging from the eye. As soon as they are gathered, they are placed on wicker hurdles, in a dry, airy shed; and, when the dew is off, they are exposed every morning to the sun, during the hottest part of the day. In order to facilitate the progress of drying, the figs are occasionally flattened with the hand. In moist, dull weather, they are spread out in rooms warmed by stoves. When they are thoroughly dried, they are packed in layers, in rush baskets, or in boxes, alternately with straw and laurel leaves, and in this state they are sold to merchants, who afterwards assort them and pack them more carefully in boxes or drums. In some parts of France, figs are cured by first dipping them in a hot ley, made from the ashes of the fig tree, and then dried, the use of the ley being to harden their skins.

CULTIVATION OF THE OSIER.—No. 1.

THE cultivation of the willow for the purposes of basket making, wicker work, &c., was practised by the Romans in a similar manner as it is throughout Europe and North America at the present day; and it is a remarkable fact, that basket making of very elegant workmanship, was one of the few manufactures in which the ancient Britons excelled at the time their island was invaded by Julius Cæsar. A crop of osiers was considered so valuable in the time of Cato, that he ranked the willow field next in value to the vineyard and the garden.

The culture of the willow for basket making was almost exclusively confined to continental Europe, particularly France, Holland, and Germany, until towards the close of the last century, whence England was principally supplied. In consequence of continued war between Great Britain and France, from 1793 to 1803, the London Society of Arts, directing their attention to the subject, have at various times, offered premiums for the encouragement of its growth; and in their "Transactions" for 1801, 1804, and 1805, as well as in previous and subsequent volumes, will be found accounts of plantations being made for which premiums were awarded. At present, extensive willow fields in England are in the fenny districts of the counties of Cambridge and Huntingdon; and perhaps, the largest plantation in the realm, is that of Mr. Adnam, near Reading. The principal English market for basket willows is London; but they are in demand, more or less, in every town in the country.

In the United States, the cultivation of the osier has never been carried to a great extent; yet, from the fact that large quantities of it are annually imported from Germany and France, it is believed by many that its culture may be attended with profit. We often read in the newspapers or journals of the

day, that small patches are frequently raised in various parts of the country, and seemingly with success; but why this species of culture has never been more general, is beyond our means of knowing. Among those who have published accounts of their experiments, are the late Judge Buel, and C. N. Bement, of Albany, Thomas Affleck, of Mississippi, and several gentlemen in the vicinity of Philadelphia and New York.

The uses to which the osier may be applied are so varied, that it would be needless for us to attempt to enumerate them here. Being an aquatic plant, and of a rapid and vigorous growth, it is peculiarly fitted for planting on the banks of rivers and streams, for restraining their encroachments and retaining in its place the soil. The annual shoots, which are of different degrees of length, are used with, or without, their bark on, for all the different kinds of basket making, wicker work, &c. They may also be employed for binding up stalks, flax, and grain, instead of straw. The finer and smaller shoots may be used for tying up trees, shrubs, and vegetables, for the purpose of sending to market in bundles; for confining the branches of trees to walls, or espaliers; for tying up standard trees and shrubs into shape; for making skeleton frames on which to train plants in pots; for tying bundles and packages; and for a thousand other purposes, which are familiar to every gardener, or will readily occur to him in practice.

Choice of Varieties.—Almost every species of willow may be cultivated as osiers; but some are greatly preferable to others. The first thing to be considered in the culture of any variety, no matter for what purpose, is, to determine whether the male or the female plant is the more desirable kind for the object of the cultivator. There can be no doubt that the female of every species is the more vigorous growing plant; and, consequently, where timber, or coppice wood, hoops, or rods for the larger kinds of basket work, are the produce wanted, the female of the species ought to be preferred, however difficult it may be to procure plants the sex of which is known. On the other hand, when tough, yet delicate rods are required for basket making, not only the finer growing varieties, but the males of the species should be selected. The female plant may often be distinguished from the male by its stronger and more vigorous growth, by the darker or more brilliant color of its bark, and its leaves being broader and of a larger size. It ought also to be borne in mind, as a general principle, that willows, to be of any use, either as basket rods, hoops, poles, or timber trees, must annually ripen their shoots; and that, in cold climates, this cannot be done where they are grown in soils which are abundantly supplied with water late in the season. Hence the colder the climate, the drier should be the soil, on account of the necessity of perfectly ripening the wood.

The most vigorous growing species adapted for basket making, is unquestionably the twigg willow, or common osier (*Salix viminalis*), and it is also the kind most generally cultivated for that purpose. It has no disadvantage, except that, in cold wet seasons, in a high latitude, and in a moist soil, it does not always ripen the points of its shoots. The other kinds which perfectly ripen the points of

to break and pulverize the surface of the soil or to bury the manure. Hence it has not long perpendicular teeth like ours; but the laborer stands upon the top of it, and presses it down upon the muddy soil while it is drawn along. The object of both plow and harrow is not only to loosen the earth, but to mix up the whole until it forms a puddle and its surface becomes smooth and soft. In this condition it is ready to receive the young rice plants.

Previously to the preparation of the fields, the rice seed is sown thickly in small patches of highly manured ground, and the young plants in these seed beds are ready for transplanting when the fields are in a fit state to receive them. Sometimes the Chinese steep the seeds in liquid manure before they sow them; but although this practice is common in the south, it is not general throughout the empire.

The seedling plants are carefully dug up from the bed and removed to the fields. These fields are now smooth and overflowed with water to the depth of three inches. The plants are put in patches, each containing about a dozen plants, and in rows from ten to twelve inches apart each way. The operation of planting is performed with astonishing rapidity. A laborer takes a quantity of plants under his left arm, and drops them in bundles over the land about to be planted, as he knows, almost to a plant, what number will be required. These little bundles are then taken up, and the proper number of plants selected and plunged by the hand into the muddy soil. The water, when the hand is drawn up, immediately rushes into the hole, and carries with it a portion of soil to cover the roots, and the seedlings are thus planted and covered in without further trouble.

In the south the first crop is fit to cut by the end of June or the beginning of July. Before it is quite ripe, another crop of seedlings is raised on the beds or corners of the fields, and is ready for transplanting as soon as the ground has been plowed up and prepared for their reception. This second crop is ready for cutting in November.

In the latitude of Ning-po, 30° north, the summers are too short to have the land cropped in the same way in which it is done in the south. The farmers here manage to have two crops of paddy [upland rice?] in the summer by planting the second crop two or three weeks after the first, in alternate rows. The first planting takes place about the middle of May, and the crop is reaped in the beginning of August, at which time the alternate rows are only about a foot in height, and are still quite green. After the early crop is removed, the ground is stirred up and manured, and the second crop having now plenty of light and air, advances rapidly to maturity, and is ready for the reaping hook about the middle of November.

About one hundred miles further north, in the Shanghai district, the summers are too short to enable the husbandman to obtain a second crop of rice, even upon the Ning-po plain, and he is therefore obliged to content himself with one. This is sown at the end of May, and reaped at the beginning of October.

A large quantity of rain always falls at the change

of the northeast monsoon in May. This is of the utmost importance to the farmer, not only as regards his rice crops, but also as to many other operations at this season of the year. We are accustomed to hear a great deal of the machine-like regularity which pervades all the operations of the Chinese; but a little investigation of the circumstances in which they are placed—at least in so far as agriculture is concerned—will convince us that their practice is regulated, not so much by caprice and those “Mede and Persian” laws, as by the laws of nature herself, upon which the success of the varied operations of agriculture mainly depend. Thus the crops of rice and cotton are sown on the low lands, and the sweet potatoes are planted on the hills, year after year, exactly at the same time. But this regularity is not the effect of prejudice, nor in obedience to the imperial orders; it is simply the result of experience which has taught the farmer that this is the proper time for these operations, because there will then be a continuance of frequent and copious showers, which will moisten the earth and the air until such time as the young rootlets have laid hold of the soil and are capable of sending up sufficient nourishment to the stems.

During the growth of the rice, the fields are always kept flooded when water can be obtained. The terraces near the base of the hills are supplied by the mountain streams, and the fields which are above the level of any adjoining river or canal are flooded by the celebrated water wheel, which is in use all over the country. These machines are of three kinds. The principle in all of them is the same, the only difference being in the mode of applying the moving power; one is worked by the hand, another by the feet, and the third by an animal of some kind, generally a buffalo or bullock. The rice lands are kept flooded in this way until the crops are nearly ripe, when the water is no longer necessary. It is also necessary, or at least, advantageous, to go over the ground once or twice during the summer, and stir the soil up well amongst the roots, at the same time removing any weeds which may have sprung up. If the weather is wet, the fields retain the water for a considerable time, and then it is not an uncommon sight to see the natives wading nearly up to the knees in mud and water, when they are gathering in the harvest.

When ripe, the crops are cut with a small instrument, not very unlike our own reaping hook, and are generally threshed out at once in the fields where they have grown. Sometimes, however, and more particularly in the north, the paddy is tied up in sheaves, and carried home before it is threshed; indeed, everything in the northern agriculture of the Chinese has a great resemblance to what is practised in Europe.

LIVE APPLE TREE POSTS.—The Massachusetts Ploughman suggests that apple trees be planted about ten feet apart, on a line where it is desired to construct a permanent fence. In the course of ten or twelve years they would be large enough to be mortised for the purpose of receiving cedar or chestnut rails, which, it is thought would last more than fifty years. In the mean time, these “living fence posts” would occasionally bear a crop of apples, and thus become profitable in “divers ways.”

IMPROVED VARIETIES OF INDIAN CORN.

HAVING noticed in the November (1847) number of the *Agriculturist* an account of the successful cultivation of Brown corn by Dr. Field, I have been led to forward you a statement of my own crop of the past season, which was raised from the same kind of seed.

The ground was prepared in my usual way [see p. 82 of our sixth volume], and planted on the 29th of May, three feet between the rows and about two feet in the other direction. The growth of the corn was very luxuriant, the height of the stalks being, upon an average, about seven feet, and the ears from two to three feet above the ground, generally of uniform size and well filled. By the 1st of October, the crop was in a fit condition to be harvested, and was accordingly cut up in fine weather, husked, and properly stored away in the corn loft, from which is selected a fine parcel for seed. Previous to harvesting, I measured off an acre of the field, the product of which, on being weighed, after the husks were removed, was 7,104 lbs. This according to previous estimates would give upwards of *one hundred bushels* of shelled corn to the acre.

I will also give you an account of another variety of corn, which I have experimented upon, by my peculiar method, although at a somewhat limited extent. About five years ago, I obtained a small ear of rice corn, with tiny grains and a cob "almost nothing," which I planted in my garden, where it had no chance to mix with the pollen of any other kind. For three or four years in succession, I planted a small patch, during which time, I found that the ear and kernel both increased in size, while the cob continued to be quite small. About the end of May last, in order to know what it would yield, I planted ten square rods of ground. The stalks grew stout and contained from two to four ears to each; and, according to a fair estimate, the yield was at the rate of *one hundred and twelve bushels* of shelled corn per acre. Thus, in five years, from the most diminutive sort in the world, I have obtained a variety which, in time, bids fair to give as abundant a yield as my other corn.

Long Island, JOHN BROWN, 2ND.
Lake Winnipisogee.

WE are gratified in stating that most of those who procured seed of the Brown corn from us for planting last spring, are satisfied with the results of their experiments. Mr. John S. Winthrop, however, of Oak Plantation, N. C., writes us as follows:—"I find that the Brown corn does not answer at all here. It matures so early, that the kernel shrivels without filling out; at least, that seems to be the case with some which I planted last spring."

By referring to a note on p. 83, of our sixth volume, it will be seen that we expressed an opinion that this variety of corn is adapted to the climate of all the New England States, New York, New Jersey, a portion of Pennsylvania, Ohio, Michigan, Illinois, Canada West, Iowa, Oregon, &c. As far as our knowledge extends, wherever this corn was properly cultivated in any of the above-named States, the results have been favorable. At p. 244, of the volume as above, it is also remarked by

Reviewer, in reference to this corn, that, "The seed of Mr. Brown's crop, which he grew at Lake Winnipisogee, in New Hampshire, would prove worthless in Florida. And it would be equally idle for Mr. Brown to undertake to grow the Florida gourd-seed variety"—an assertion perfectly correct, and proves the experience of our North Carolina friend to be true.

In order to acclimatize Indian corn in a distant latitude from that in which it grew, its progress must be gradual and should occupy several years. For instance, if it were wished to cultivate the Brown corn in North Carolina, it should first be planted in New York or Connecticut, for two, three, or more years, without changing the seed; then it should be cultivated in a similar manner, in Maryland or Virginia, from the New York seed for two or three years more; and finally, in North Carolina, where it would then succeed. If a similar course were pursued with the corn of Florida, in process of time, it could be made to ripen in Canada. In either case, the character of the corn would change, and often new varieties would be the result.

The Brown corn which was raised on the Hudson last season, was planted about the middle of May; ready for harvesting by the 15th of August; attained only five sevenths of its ordinary height in New Hampshire; sent forth well filled ears at a foot and a half above the ground; and yielded, by estimation *ninety one bushels* of shelled corn to the acre; which was at least one third more than the neighboring crops, soil and cultivation of each being nearly the same. The same kind of corn planted on the south end of Long Island, N. Y., the first week in June, fully ripened for harvesting the first week in September, and yielded by estimation, over sixty bushels per acre, being several bushels more than any other corn on similar soil, and equally well treated.

We have an abundance of seed on hand, that was grown in this vicinity, which we will sell at ordinary rates; but it is doubtful, after the change it has undergone, whether it possess advantages over our common kinds. Notwithstanding the high price we unavoidably have to pay for transporting the Brown corn from Lake Winnipisogee, it is obvious, from numerous experiments, that it would be for the interest of many of our farmers to procure their seed from that source. Security against frosts and a prospect of an increased yield, without additional labor, or cost of manure, certainly are sufficient inducements for them to make the trial. We wish to be understood, however, that we do not condemn the seed grown in this vicinity; but, on the contrary, would recommend it to be sparingly planted, in order to test its productiveness. Our own choice would be to procure the corn from the fountain head. For particulars see advertisement.

PRODUCTIVENESS OF THE CATAWBA GRAPE VINE.—The original vine of this variety is said to have been procured from the banks of the Catawba River, and planted in the garden of the late Mr. Schell, of Clarksburg, in Maryland, and has been known to bear nearly *eight bushels* of grapes in a single year.

MODE OF IMPROVING SAND WASTES IN THE VICINITY OF THE SEA.

DURING a residence of several months on that extensive and beautiful estate of the late Mr. Van Eys, Mayor of the city of Amsterdam, situated between the city of Haarlem and the North Sea, I enjoyed a fine opportunity to observe the manner in which the farmers of Holland reclaim the Downs (*Duines* in Low Dutch), described by Professor Norton on p. 316, of your sixth volume. Intelligent and able landowners, in the vicinity of the Downs, mark off, say one, two, or more acres of these sand wastes, contiguous to their cultivated farms. These spots they closely plant, in parallel rows, with the down grass (*Arundo arenaria*), which casts a pretty deep root into the moist parts of these beds of sand. Afterwards they inclose them with a hedge of hawthorn, or a close bush fence, as an additional protection against the incursions of the winds. In a couple of years more, they sow them with buckwheat, or turnip seed, which, when sufficiently grown, is plowed under and sowed with winter rye. In the succeeding spring, this land is well manured, and planted with potatoes, which, although not abundant, are of that fine quality so justly ascribed to them by Professor Norton. After this, rye is again sowed. Thus hundreds of acres in this manner are reclaimed from useless wastes and rendered available for agricultural and other useful purposes. Some of these reclaimed lands, I have seen covered with thrifty plantations of oaks, which, by the intelligence and industry of man, have amply rewarded him for his labor.

Mr. Van Eys, who was a truly practical as well as scientific agriculturist, was in the habit of adding, from year to year, lands taken from these Downs, to his cultivated fields, and rendering them equally productive. I have walked along fields of rye, at his place, which might have afforded me a convenient hiding place. The country seat of Mr. Van Eys was known by the name of "Boekenrode," from the magnificent beech trees, which imparted great beauty to the place.

AUGUSTUS WACKERHAGEN.

Clermont, N. Y., Jan., 1848.

HYDRAULICS FOR FARMERS.

EVERY farmer, especially in a northern climate, must be aware that the comfort of his stock through the inclemency of winter is essential to carrying them through that season in the most economical and of course the most profitable manner. To insure this degree of comfort, sheds and stables in which they are protected from driving storms, high winds, and intense cold, are indispensably necessary; for it is now a well established fact with our best stock growers, that the expense of such sheds and stables is fully liquidated by the saving of fodder and increase of thrift in the animals in a very few years, probably before the buildings erected for their benefit need their first repairs. And there are other objects gained by the housing system for stock. They are rendered more docile by the operation. The cow or the ox that has been accustomed to be frequently or almost universally housed through the inclement season from the early days of "calfhood," will almost invariably possess ex-

cellences which are seldom found among animals doomed to roam at large and seek shelter where it may, and sometimes where it may not be found—behind buildings or fences, the disjointed sides of which make but miserable pretensions to the objects to which the helpless and ill-fated animal appropriates them.

There is another subject connected with the thrift of the farm yard which is no less important than nice warm stables and good comfortable sheds. That is *water for stock* of which they need a regular supply, as they do of feed or protection. This fact is unquestionable, and therefore needs no comments, as every useful and observing farmer knows full well; yet how often it is the case that the poor animal is turned adrift to contend with piercing winds and almost impenetrable drifts of snow, while it plods its way to the well remembered spring, the pure, cool waters of which, so often allayed the feverish thirst of summer, to sip the healthful draught that winter's wants require. What hooking and pushing and crowding is often witnessed by the way, and when the already enraged group gather round and in angry dispute, contest each others claim to the sparkling fountain! and how they look, and how they feel when they return to the barn after such a pilgrimage, attended with such conflicts!

Many of our farmers, it is true, have seen the inconveniences and unprofitableness of such a state of things, and have remedied them by introducing pure streams of water into their yards, so that the animal may go to the tub at any time, or at all times when liberated from the stable to take the libations that nature so promptly demands. Those who have done so, have found economy in this, though in some instances, the first cost, from the distance of the spring, involved considerable expense, by the saving of their own time, the saving of the comfort and thrift of the animal, and the saving of manure, which, instead of being left in a line from the barn to the spring and around the spring where it is not wanted, is now deposited in the yard, ready at the farmer's move to be taken to the spot where its value will be most advantageously realized. Hence it must be concluded that it is for the farmer's interest to have a constant supply of pure water in or very near his farm yard, in order that his animals may drink singly, or together, when, and as often as they please.

The frequency with which farm buildings are situated on elevations, however, seems in many instances to preclude the possibility of introducing water to them, from the springs, which are often all situated so far below, as to shut off the possibility of getting supplies from them by the usual method of an aqueduct. But another method to accomplish this object has been found, and from its utility has been liberally adopted, and this with a success fully equal to the expectations of all who have adopted it. I refer to the introduction of Benson's hydraulic ram, not that hydraulic rams are a new thing, for Montgolfier, a Frenchman, invented one long ago; but this of Benson's, so simple in construction, so easily kept in repair, and so regular in its operations, is to us northerners altogether new. The first of Benson's I saw, was set up about two miles from my residence, as an experi-

ment, in September, 1846. The spring was from ten to twelve rods from the buildings, and down a bank, the descent of which was about forty feet. At the bottom of this bank the farm animals had been obliged to travel through storm, wind, snow, and mud, and over ice, for a full half century or more, and up this doleful way the water for the family use had been carried in buckets, by hand (who does not feel himself growing stooping, while he thinks of it), for the same long period. The operation of the machine was so satisfactory that the farmer became the purchaser, and in the November following, made it a fixture of his premises, and since that time, has had through its agency, an abundant supply of water for his stock in his yard, and for household purposes, at his door. In a recent conversation with him upon its utility, after a year's trial, he expressed his full satisfaction in its operation and thought that no consideration would induce him to forego the convenience it affords. And thus we see, that a way is fully and completely provided whereby those whose springs are situated lower than their buildings can have them brought within a convenient distance, or if they choose, carried into every stable, or every apartment of the dwelling, with as much facility as convenience requires, at but a little more expense in the outfit than water can be brought down hill in a common aqueduct, and with as great prospect of permanent success in the former as in the latter instance.

W. BACON.

Richmond, Mass., Jan. 1848.

LETTERS FROM VIRGINIA.—No. 3.

THE county of Loudon is situated in nearly a north-westerly direction from Fairfax, and bounds it on the west—extending to Harper's Ferry on the north, with the Potomac on the east, and the Blue Ridge on the west, which separates it from Jefferson and Clarke counties. With rare exceptions, in Virginia, the subdivision of territory into townships is unknown. There are upwards of one hundred and fifty counties, many of them occupying not more space than some of our larger towns. In each county one or two villages may be found—seldom more—the residue constituting plantations and farms. Providence, or Fairfax court house, as it is indifferently termed, the county seat and only village of Fairfax county, consists of a straggling collection of buildings, mostly of wood, and several, even among the principal shops and stores, of logs—and rather resembles what you are accustomed to term cross roads, than the flourishing villages which dot the surface of the Empire State. The court house, clerk's office, jail, one or two of the hotels, and a few of the dwellings of the more wealthy citizens, are of brick.

Leesburg, the capital of Loudon, is quite a large town—neatly built—principally of wood and stone—with narrow and execrably paved streets—and a population of some two thousand. It has a very fine academy, a bank, four or five good hotels, two printing establishments, fifteen or twenty stores, a court house and jail, clerk's office, &c. The country around is exceedingly beautiful, and well cultivated. On the principal thoroughfare, leading from Georgetown, through Fairfax to Leesburg and Winchester, after leaving the Fairfax boundary, you are

at once transported into the midst of a rich, luxuriant, and highly cultivated region. The endless succession of pines which presents itself in nearly every portion of Fairfax, here disappears; and in its place, pastures, meadows, and arable fields are agreeably and pleasantly diversified with noble and extensive forests of chestnut, oak, walnut, and cedar. The mountain scenery is very beautiful and frequently magnificent. Large herds of cattle are seen grazing on every hill—flocks of sheep are by no means unfrequent—with stock of every description—while crops of corn ranging from one hundred to a hundred and fifty bushels to the acre, and of wheat, from twenty to thirty, with other crops in proportion, are often realized. In short, this portion of Loudon is universally regarded as the garden of Virginia; and I cannot conceive of any more ample development of fertility and beauty combined, than is here presented.

North and west of Leesburg, in every direction, may be found farms of from five hundred to a thousand acres, in the highest state of cultivation, with costly and magnificent buildings, grounds, parks, palings, &c., affording ample evidence of the wealth, no less than the intelligence and taste of their proprietors. These proprietors are, with rare exceptions, gentlemen of the old Virginia school—a school, I venture to say, unequalled in the wide world for the cultivation and development of all those qualities which adorn and beautify human life, and elevate and exalt modern civilization. Unbounded hospitality—a hospitality which seems never to become burdensome either to its dispenser or its recipient—which, unlike much that often passes for this sterling quality elsewhere, leaves its subject perfectly free in all his motions, and at liberty to follow the bent of his own inclinations, while it relieves the host from all that embarrassment and fatigue which an exclusive devotion to his guests and a perpetual attendance upon his footsteps, necessarily involve. Genuine, old fashioned southern hospitality of this sort, constitutes a leading and prominent characteristic of this delightful region. With this is combined, especially in the higher classes, an unaffected and pervading spirit of kindness, benevolence and urbanity—rendering a residence in their midst a constant source of pleasure and satisfaction. I am free to confess, that for the mere purposes of social enjoyment, including, of course, intellectual and moral companionship, and all those nameless charms and graces which adorn and dignify an advanced civilization, I should be inclined greatly to prefer the south to the north—even those portions most refined and longest settled. The mildness and benignity of the climate—the fertility and variety of the soil—the usages and habits of the people derived with scarcely a perceptible alteration from their ancestors of two centuries since—the leisure which their institutions afford for the cultivation of the highest faculties of the mind—and the opportunities they present for the constant exercise of all those qualities of the heart which constitute the noblest patrimony of our nature—all these causes combine to the development of a state of society far in advance of that which is ordinarily found under other and less auspicious circumstances.

After what I have said of the appearance and

fertility of the soil in this region, and the liberal crops annually harvested by its enterprising proprietors, I need scarcely add that very great attention is paid to *manures* of every description. Lime is used in profuse abundance—from one hundred to a hundred and fifty bushels per acre frequently applied, and everywhere, as I am informed, with the best results. Ashes and plaster are regarded as next in importance; and wherever charcoal can be procured at a reasonable rate, it is given to the soil sometimes as a top dressing, but more generally with the crop when put into the ground. The utmost care is bestowed upon the farm yard manures—not a particle either liquid or solid being allowed to escape—and compost heaps very generally being charged with the task of absorbing and retaining for future use, these indispensable elements of fertility. The extensive pastures which everywhere prevail in this region, furnish the Washington and Baltimore markets with the finest beeves; and vast droves of cattle are constantly passing in that direction nearly every day in the year.

In this county, as well as in Fairfax, the northern immigration is in rapid progress; and some of the best farms have already been taken up by our enterprising Yankee farmers, at prices varying from \$20 to \$40 per acre. The land, as you will easily infer from what has been said, is much more valuable than the exhausted soils of Fairfax; but then, on the other hand it is farther from market, and considerably more expensive. There is a very prosperous and interesting Quaker settlement some ten miles north of Leesburg, of which I shall speak in my next.

A NEW-YORKER.

PROTECTION OF CROWS, BLACKBIRDS, FOXES, TOADS, &c.

FARMERS are in the habit of complaining of the crows and blackbirds, for pulling up their corn. These birds prefer to seek their food in their usual haunts. When their food is not found there, they visit the cultivated fields of the farmer. Would it not be good policy for the farmer to scatter some corn in the field, and fulfil the injunction of "feeding the hungry," and thereby save the corn fields from injury? Or would the crows call their fellows and invite too many to partake of the bounty, and when that was eaten, attack the corn plants? So with the pigeons, when they find plenty of beech nuts, acorns, &c., of spontaneous production to satisfy their hunger, they stay at home, in the forests. It is only when famine at home compels them to roam for food, that they visit the cultivated country in search of it. I have known them to pull up the corn plants of whole fields, ten fold worse than the crows.

Foxes and skunks, also, feed on mice, bugs, crickets, frogs, &c. But when they are pinched hard for food to feed their young, they are ravenous, and roam at night over great extent of country, enter the enclosures of the farmer, rob his henroost, take off his chickens, geese, ducks, young pigs, and anything to appease their hunger. It is not their choice to plunder the farmer, and do not, till their usual supply fails. Would not the farmer do so when famine deprived him of food? He says, "necessity has no law" to restrain him.

The innocent toad is not only harmless, as he

meddles not with anything valuable, but benefits the farmer by feeding on insects and worms. He sits perfectly still within eight or ten inches of a flock of ants, and throws out his tongue like a flash of lightning, and takes in one certainly, at each throw, without the least movement of his body. The toad is useful to the gardener and farmer in feeding on insects. Let the farmer then withdraw his wrath from these animals for imitating us when in want.

What a wise provision it is in nature, that rats and mice are only about five to ten per cent. females. We suffer much from them now. If these were of equal numbers of male and female, would they not consume the chief of the produce of the labor of man?

DAVID TOMLINSON.

Schenectady, Oct. 1847.

HEREFORD CATTLE.

I SEE by your last paper that you are expecting something from me on Herefords. Nothing can alter my opinion of that valuable breed, nor do I think they can be *equalled* for all purposes, by any other. The more I know of them, the more I am convinced of their superiority as milkers of the richest kind; and I am positive that *good handlers* will invariably give rich milk. I never had a single Hereford that gave milk of an inferior quality, and I will leave it to those who have purchased from me, to say whether I ever sold a cow or heifer that would disprove this fact. The Short Horn men, the principal opposers of the Herefords, cannot do less than admit their superiority for the yoke and shambles. I shall soon be able to test them fairly against some of the best common stock of the country, half bred Devons, and half bred Short Horns, and compare them with my esteemed neighbor, Mr. Lewis F. Allen's best breed of Short Horns; and your readers all know that the bull Wellington, which he has been using the past two years was imported by that spirited breeder, Mr. Vail, of Troy, and is one of that fine handling, high bred stock, from Mr. Bates of Kirkleavington, England, whose produce will be a fair contest. He can show by ocular demonstration the proof of the Hereford, and I can that of the Short Horns. I must say he has some calves and yearlings that look like quality; and such are the ones I wish to contend against. These results shall be accurately made known to you.

If my health should hold good, my friends prove true, and my enemies treat me fairly, I will endeavor in a few years to show by practical knowledge, the various crosses from the different breeds of cows in this country, and a Hereford bull. Such experiments will enable me to prove the good that can be devised by judicious breeding.

There are but few who know the value of a full blood sire, and I do firmly contend that no other should ever be used, whatever may be the favorite breed resorted to. And I think a breeder of thorough bred sires of more importance to the public, than individuals are willing to admit; but he must not be a "*fireside breeder*," but one that can be thoroughly depended upon; such a one as would never let a mongrel cross leave his premises, and if his pure bloods did not prove all that he represented, they should be exchanged and made good

at his expense. Such a breeder would never save a *mongrel male*; and he would be safe in his recommendations, knowing the *proof* of the animal in which he placed his dependence; nor would he be deceived in the produce of such a sire, probably, nineteen times out of twenty, when the animals bred from were *good and unalloyed*. I would not scruple in sending a bull calf to any upright, honest man without prejudice, and warrant him a good stock getter, even if his appearance was not in his favor. I should know positively from whence he sprang, and should feel perfectly convinced that the result would be satisfactory.

A breeder of good and pure bred sires, has a great deal to contend against. His judgment must never waver, every point of an animal must be strictly observed, and carefully put into practice; then he is nearly certain of producing a good one. I consider the *handling point* one of the most important, for a *good handler* is not only a good feeder; *gets ripe more quickly* with less consumption of food, but is a rich milker; and a sire bred from a cow possessing these two important points, is of very great consequence. He produces quality, if he does not quantity, which is in reality true value. I would much rather have a milking herd of the former than the latter; an average of sixteen quarts per day is as much as any reasonable man ought to expect, and there are not four herds in ten which will come up to that through the summer.

When a breeder has paid every attention to these matters and has succeeded in getting as near perfection as his ability will admit, it is not appreciated by the people of this republic. If he asks a hundred dollars for a calf (and I would not sell one for less), he is laughed at, or is considered exorbitant in his charge. No man can sell a calf of the description I speak lower; nor does a farmer deserve to own such an animal who has not sufficient spirit to pay those who have taken the greatest pains, and studied with considered care the ways and means of producing him. How many there are who like to look at superior animals; but how few who will aid to advance their improvement. The men of bank stock, railroad stock, and every other kind of stock but the right stock, and who quarrel with their butchers for sending the *tough beef they tug at and chew*, and have plenty of money at command, still hold back their funds from improving the very *stock they feed upon*. There are many who own thousands of acres of land, who have never spent a dollar towards the improvement of the mongrel stock, growing upon it. And there are those who have but little, and who have toiled hard with that little for the benefit of mankind, and have met with ridicule and abuse to add to their loss, trouble, and expense. But when you take into consideration the numerous animals of different breeds that have been imported into this country from England, and witness the inferiority of them generally, you cannot blame their lack of confidence. If a tenth part of the stock brought here had been prohibited from landing, and that money had been laid out in the *best* of each kind, then the public would not have been *humbugged*, which they certainly have been and to a very great extent. They have paid enormous prices for very spurious animals, *large coarse worthless brutes*, that have injured the common stock

of the country, rather than improved it; and it will take a long time to conquer the illiberal feeling that exists against imported stock.

If you wish me to write you some short articles on the Herefords, I will endeavor to do so, and for the next number, I will commence on calves and their treatment while young. [Please to do so.—Ed.]

All the Herefords that are not giving milk, are living on marsh hay, not a bit of anything else have they had before them this winter. I never saw them looking better, and I am perfectly convinced that a Hereford beast will live and do well on coarser food than any other kind of animal; and those who try them will find it so; they are not choice eaters. You are aware what kind of marsh hay it is, as you know the premises equally well as myself. I have four bull calves for sale that will be wintered on marsh hay for breakfast, a two bushel basket of cut Timothy hay, with about two quarts of shipstuff mixed with it for dinner, and one and a half for supper, and I think they will come out in the spring fit for business; although not very high in condition, they will be as good as I would wish them. WM. H. SOTHAM.
Black Rock, Erie Co. N. Y., Dec. 21, 1847.

With respect to wintering an animal on *marsh hay*, we can tell a story which is rather before that of our correspondent. When we occupied the same premises that Mr. Sotham now does, among other animals on the farm, was a three-year-old Durham bull. We had a stack of marsh hay standing outside of the barn, one of the coldest and bleakest spots we know upon the Niagara River. At that time, 1836, it was generally charged as a fault of the Durham breed of cattle, that they were not so hardy as the natives. We determined to try an experiment on this bull, for the purpose of ascertaining so far as he was concerned, whether there was any truth in this oft repeated assertion of the enemies of this breed. We accordingly took him up from pasture late in the month of November, 1836, and turned him out to this stack. The bull was not inside of a barn or shed, to our knowledge, all winter. His only shelter was the lee-side of the stack, and his only food, its harsh, coarse hay, and the orts he got out of a dung heap, daily accumulating from the horse stable. Not a particle of cut hay, or roots, or bran, had he in addition. He came out in the spring in good condition, which was, we will venture to say, more than would have been the case with most of the bulls of any other breed. The following winter he was treated precisely in the same way, and came out looking equally well—really, in fine condition.

To prove the working qualities of Durhams, so far as we then could, the following winter '38 and '39, we put this bull at work, lumbering, alongside of a large, powerful eight year-old stag. The stag girted six inches more than the bull, and was proportionably heavier. They worked in common with twelve other yoke of the most powerful cattle we could purchase in Erie county. The timber these cattle drew out, was large, heavy white oak logs, from 20 to 65 feet long, probably averaging full forty feet in length, and two and a half feet in diameter. Some were four feet in diameter at the butt end. All who have any experience in lum-

bering know, that such work is exceedingly hard on cattle, and none but the best can stand it for any length of time. Some of these oxen girted seven feet round the heart, and yet not one of them was a match for the bull at a dead pull; and in his step, he was among the quickest. Indeed, so well pleased were the teamsters with his performance, that it was quite an affair of rivalry to get him in their team. For his different feats they elected him to various gradations of military office, starting with the title of Corporal. If we recollect right, before being mustered out of service, he had attained as high a rank as Colonel; and had not an early thaw unexpectedly come on and carried off the snow, thus putting an end to lumbering for that year, he would unquestionably have won the puissant title of Major General!

The truth is, good working cattle, good beef, good milkers, or the reverse of all these, may be chosen from Durham cattle, according as one wishes to breed. For a combination of all these qualities, and especially as beeves and milkers, we do not think those Durhams, which are *properly bred*, can be excelled. But all this in favor of Durhams does not militate against the Herefords; they are a noble race, and worthy of all commendation. From the first of Mr. Sotham's importation, we have been among their earliest and strongest advocates; and we will say, frankly, that they undoubtedly, generally excel the Durhams in the yoke, though at the same time, we must add, that we have seen half to seven eighths bred Durhams in this state, Connecticut, and Massachusetts, which could not be beaten in the yoke, neither at the shambles nor at the pail.

We trust that Mr. Sotham will continue his articles. He is not only a good breeder, but a first rate practical farmer; and these are the kind of men whom we wish could be induced to write more frequently for agricultural journals. The hard-fisted yeomanry would have less to say then, than they now do about book farming.

HOW TO CHECK THE BLEEDING OF AN ARTERY.—The French surgeons, Amussat, Velpeau, and Thierry, have proved that bleeding from an artery may be more effectually checked by tearing or twisting the wounded parts than by a simple ligature. For, when a ligature is applied to an artery, it is only the surface of its coats that come in contact, while, if it be torn or twisted, the minute globules or cells adhere together in a variety of different ways, in a similar manner as the fresh-cut edges of India rubber, or the raw particles of newly-broken dough. Furthermore, it is well known that if the internal coats of an artery be not closely pressed by the ligature put round it, adhesion will scarcely take place—an observation which closely coincides with the statement above.

LOBSTERS.—Lobsters that are rather large and heavy are considered the best. When fresh they have a lively color and pleasant smell. When boiled, the tail will be stiff, and pull up with a spring, if fresh. The cock lobster is preferred, though smaller than the hen, and may be known by the narrow back part of his tail, and the two uppermost fins within it being stiff and hard. Those of the hen are broader and more soft.

CLEARING OF WOODLANDS.

THERE are few evils more to be lamented than the wanton destruction of young growing wood. Notwithstanding the consumption of timber and fuel is so great in almost every settled part of our vast territory, and the demand promises before many years to exceed the supply, it is painful to behold the useless and reckless warfare which is so frequently waged against our forests. "France," observed an eminent statesman, "will decline, as many flourishing countries have, if she does not follow the example of Cyrus, who planted forests in Asia Minor. It is only the abundance of forests and water, that enables China to support her 300,000,000 of people; because, in that empire, there are planted more trees than destroyed. Spain, so highly cultivated, and so densely populated, in the time of the Romans, the Moors, and even Charles V., owes her desolate aspect at present, to this waste of wood." The same is the case with several parts of Asia, as well as of South America, Mexico, and California, and the same will inevitably be the result in this country, unless efficient and frugal means are speedily adopted to prevent its waste.

With many of our farmers, it is customary to pursue a very injudicious course in regard to their woodlands, selecting the older and larger trees, or those which are decayed or dead, with the view of leaving the younger or more vigorous ones to grow. By this method it is next to an impossibility to fell large trees, without serious injury to the smaller ones, which must inevitably be more or less mutilated or crushed to the ground. Hence, if the growth be thick, numerous openings will be made, and roads, or pathways, must be cleared, in order to haul out the wood after it is cut.

In France, the most economical plan of managing woodlands, is, to cut clean and smooth as you go. The clearing thus made, if intended for future growth, is not burnt over as with us, but is immediately enclosed and carefully protected from the depredations of cattle, sheep, &c., allowing the young sprouts, which start with vigor, to pursue their growth unmolested, until they are beyond the reach of harm. In felling a tree, the closer it is cut to the ground, the more will be gained in wood, and often it will well pay the farmer to grub it up by the roots; for, the nearer the ground, the larger and stronger the trunk, and even the roots of some kinds of trees are highly valued for numerous purposes in construction, as well as in the arts.

STEEP FOR INDIAN CORN.—Take 1 lb. of salt-petre (nitrate of potash), and dissolve in 6 quarts of water; or 2 lbs. of copperas (sulphate of iron), may be dissolved in 5 or 6 quarts of water. Let your seed corn soak in the mixture from 24 to 36 hours before planting, and it will not only be less liable to the attacks of birds and worms, but the young plants will take an earlier start and be more vigorous in their growth.

A PRODUCTIVE APPLE TREE.—It is stated that an apple tree in Duxbury, Massachusetts, has yielded one hundred and twenty one bushels of fruit in a single season, a quantity sufficient to make fifteen barrels of cider.

LONG ISLAND PEACHES.

It has long been the opinion of many, that the soil and atmosphere of Long Island, from its proximity to the ocean, are unfavorable to the successful cultivation of several of our garden fruits, particularly that of the peach. But when it is considered that the little peninsula of Delaware, which is but a trifle larger than Long Island, produces the peach in the greatest abundance and in the highest state of perfection, all arguments like the preceding will appear fallacious. Moreover, we have an instance before us, where the cultivation of the peach on Long Island, has been crowned with the most complete success.

On the 1st of October last, we visited the peach orchards of Mr. John I. Stoothoff, situated on the Rockaway road, directly at the head of Jamaica Bay, six miles from the Atlantic, and two miles south of the village of Jamaica, where they receive the uninterrupted effects of salt air and ocean winds. These orchards are two in number, one containing originally 2,500 trees, five years planted, and the other 1,050 trees, four years from the bud. The soil, in which they are planted, consists of a very fine, light sandy loam, poorer than the lands at Flatbush, and similar in character to those of Islip, and several points farther east. The trees were generally planted from 18 to 20 feet apart, and, with the exception of a portion of those of the larger orchard, all appeared exceedingly vigorous, although they had somewhat suffered from mutilation in gathering the fruit. Mr. Stoothoff was about completing his harvest, having been engaged in sending his fruit to the New York markets, since the 12th of August, between which time and the 3rd of October, he sold 2,637 baskets, bringing in the aggregate, \$2,600.18. The trees from which the fruit had not been plucked, at the time of our visit, were actually bending to the ground with excessive weight, and finer looking peaches we never saw. The varieties principally cultivated, were the red rareripe, early and late malacotones, lemon clings, and Morris whites.

At the time of planting the trees, Mr. Stoothoff cuts off the tap root, if there be any, in order that the other roots may take a horizontal direction near the surface of the ground, and receive the full benefit of the manure and the vivifying influences of rains and dews. The first year after he plants his trees, he cuts off the trunks or stems from two and a half to three feet above the ground, in order to allow the future branches to start low and form a bushy head. In winter, he prunes his trees by cutting away all dead wood, and in summer he thins out the superfluous branches, in order to admit the sun and air. In the month of June, and again in September, the earth is drawn from each tree, the roots carefully scraped, all borers cut out with a knife, and the earth properly put back in its place.

Mr. Stoothoff, for two or three years past, has been in the practice of planting asparagus and peas in his orchards, manuring them with wood ashes and stable or barn yard dung. The cultivation of garden vegetable among fruit trees, however, he does not fully approve. He thinks it preferable to keep his orchards clear of weeds by frequently scratching over the surface with a cultivator, and manuring each tree, within a foot or two

of the trunk, with six to ten fish (moss bunkers), covering them over with three or four inches of earth. To the last named circumstances and the great care observed in removing the tap root and extracting the borer, it is probable the success of his peach culture mainly depends.

Mr. Stoothoff has kept an exact account of the products of his two orchards the season past, from which we copy the following, including the amount of sales:—

2,780 bunches of asparagus,	\$418.10
431 bushels of early peas,	425.50
261 " late "	185.75
41 " Sickle "	17.25
2,637 baskets of peaches,	2,600.18

\$3,646.78

These orchards contain about 28 acres, and constitute a part of the farm recently owned by James Campbell, Esq., late Surrogate of the city of New York.

PROPER REPOSE FOR CONSERVATORY OR WINDOW PLANTS.

PLANTS under artificial treatment, it is well known, cannot long exist in good health, without a period of repose. Consequently, various directions have been given respecting their management as regards the proper state in which they should exist previous to their resting season, and how that rest should be produced.

One person recommends withholding moisture, another advises as much exposure as possible to solar influence; a third, close confinement and high temperature; a fourth, full exposure to the open air, with all its vicissitudes; a fifth says, curtail the roots and retard over luxuriance; a sixth, annually divests the plant of a portion of its roots; a seventh tells you to prolong the growing season by encouraging early growth; and finally, an eighth recommends freely thinning out the top. Now, all of these rules may be very proper when judiciously applied; but what is the inexperienced beginner to do, with such conflicting directions before him, any one of which, if carried to excess, it is well known would prove injurious to the plant?

The question then arises, how is a proper state of repose to be attained. Heat, cold, moisture, drought, light, shade, and air, are necessary agents, so far as climate and atmosphere are concerned, for promoting health and vigor, and are all requisite in various proportions, according to the nature of the plant, and under some circumstances for adjusting its habit. For instance, if the plant be of a stove or hot-house kind, which came from a tropical climate, where the rainy season occurs when the sun is nearest and spring and summer are combined in one; while, on the other hand, the dry season answers the same end as a low temperature does in colder climates, by withholding moisture, and consequently suspending vegetation, moisture should gradually be withheld from it, both from the soil and atmosphere for a short time, and plenty of solar light and heat admitted in its stead. Again, natives of a milder climate, such as may be strictly termed green-house plants, which would perish from a much less drought, should be placed in a cooler situation, in order to slightly suspend the

supply of moisture at their roots. To effect this object, in autumn or winter, they may be allowed to remain out of doors as long as there is no danger of their being injured by frost.

It may be laid down, as a general rule, that, the plant, which is between the extremes of leanness and obesity, as we may say, is in the most proper state for resting; for the least tendency to the one state or the other must be at the future expense of growth, bloom, or fruitfulness. All plants should be encouraged to make fresh growth directly after they have done flowering; and, when such are matured, they should be subjected to a period of rest; otherwise, the blooming season will become disturbed, which is indeed apparent by some of the shoots producing blossoms long before the general time of flowering has arrived, destroying, of course, the beauty of the plant.

BURR STONE MILLS.

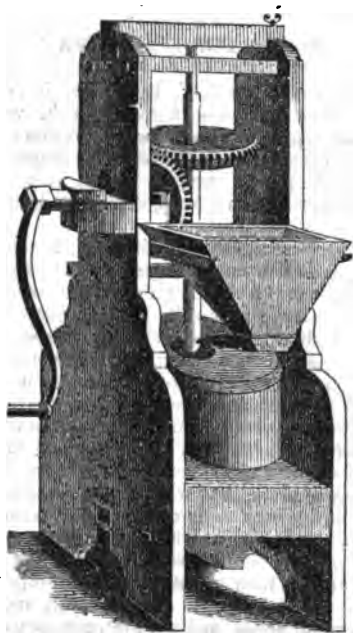


FIG. 13.

BURR STONE MILLS (fig. 13), are adapted for grinding all kinds of grain.

16 inch stones grind $2\frac{1}{2}$ bushels per hour.

20	"	"	3	"	"
24	"	"	$3\frac{1}{2}$	"	"
30	"	"	5	"	"

These mills are ready framed and rigged to attach the power, and are more particularly designed for plantations at the south. When we speak of their performance, it is to be required that they should be driven at a proper speed and with sufficient power.

CONSUMPTION OF WOOD IN THE UNITED STATES.—According to the careful calculation of a skilful engineer, the present demand for wood, as fuel, in this country, is equal to 10,220,000 cords per annum.

SEASON FOR CUTTING TIMBER.

THERE are few subjects connected with rural economy, about which more has been written and with more opposite opinions, than the proper season for felling timber.

One class pertinaciously contend, that timber intended for building houses and ships, or for making farming tools, machines, &c., should be cut *near the end of the third quarter, or beginning of the fourth quarter of the moon, in February*, at which period, they say, there is the least sap in the trees, and when, if cut, their timber is less liable to powder post, or rot. Another class maintain, that it should be felled between the time of putting forth of the leaves and the period of suspension of the ascent of the sap (from May into August, in the middle and northern states), which is then thin and easy of evaporation, while the pores of the wood are most open, and devoid of fermentable matter, or starch; for, after August, it is asserted that, deciduous leaves form no more wood—all of the carbonic acid, which the trees then absorb, being employed for the production of nutritive matter for the succeeding years. Instead of woody fibre, it is found, that starch is formed and diffused throughout every part of the sap wood by means of the descent of the autumnal sap. Hence, they say, at mid-summer, the trees afford no nourishment to worms, which are the origin of powder post, nor to parasitical fungi, the immediate or approximate cause of *dry rot*.

A third class advocate the operation of felling to be performed in Autumn, after having taken off the bark of the trunks of the trees early in the spring, and suffering the new foliage to put forth and die. By this process, it is said, that, in consequence of the germination of new buds, the starch, or saccharine matter in the tree is expended, and that the sap wood then becomes nearly as hard and durable as the heart wood, being stronger and less liable to decay, or to be penetrated by insects, or worms.

If all of the above methods have in truth the good effects thus attributed to them, the dispute in relation to the season of the year proper for felling timber is needless; but as most of the experiments heretofore tried, were made upon hickories and oaks, there is no certainty that these practices may be extended to various other trees. A majority of instances, both in Europe and this country, is in favor of winter felling; although there are numerous well authenticated cases where timber has proved equally durable, that has been cut in June or July. After all, much may depend upon the soils, aspects, latitudes, and elevations, in which the trees may grow; and more, perhaps, in the manner of seasoning and preserving the timber after it is felled, the two latter of which, will form the subject of an article in our next number.

TO PROMOTE THE VEGETATION OF OLD SEEDS.—A small portion of superphosphate of lime mixed with seeds, when sown, in sufficient quantity to give them the appearance of being limed over, will cause them to germinate quicker and stronger, more especially in the case of old seeds; and it is also found that the plants are less liable to be injured by insects.

SWINE.—No. 2.

BEFORE we proceed to give an account of the different breeds of swine (other than the Chinese), that have been imported into the United States from time to time, and which have proved of the greatest benefit to our country, it may be proper to describe the originals, which were probably used in Europe in crossing with the Chinese, to produce those breeds. These were undoubtedly the wild hog, fig. 14, and the old English hog, fig. 15, and other cognate breeds. All these crosses, properly speaking, the breeding of which we have had an opportunity of watching attentively, will occasionally cast a pig showing more or less traits of the wild hog, or the old English, or some allied breed, which is a sufficient proof, to our mind, that they were made in the way of which we speak.

When we were in England, we saw several specimens of the wild hog, at the magnificent Zoological Gardens in Regent's Park, and other places, and took notes of their characteristics. The Asiatic specimens were about 30 inches high at the shoulder; the head and snout thin, straight, and rather long, than otherwise, the jaws armed with long, formidable tusks; eyes large, fine, and expressive of mildness, owing doubtless to their kind treatment in confinement; ears short and erect; neck thick, muscular, and of medium length; chest thin, though of good depth; shoulders full, with a half shield of thick folding skin over them; barrel of medium length, breadth, and depth; rump steep; hams well turned in towards the body; thin behind and not very well let down in the twist; legs and feet fine and of moderate length; tail short; hair thin, short, stiff, and coarse, with thick, long strong bristles; color of the snout, ears, around the eyes, the tail and legs, dark brown; color of the hair grey, something like that of the American wolf, though darker, with the ends of the bristles slightly tawny. The boar in fair store condition, we judged would then weigh 300 lbs. alive. The female closely resembled the male, though smaller, finer, and with fewer bristles.

The African wild hogs were much like the Asiatic, with the exception of some white under the throat and belly. The legs and snout were shorter, the

tail long and bushy, with a white tuft at the end. They had a slight general resemblance to the Siamese.

We are of opinion that Youatt's description of the wild boar was written after an inspection of the hunting scenes, which adorn the picture galleries of English noblemen. In these he is represented as a



THE WILD BOAR.—FIG. 14.



THE OLD ENGLISH HOG.—FIG. 15.

savage monster, chased and attacked by packs of large, fierce hounds, and huntsmen well armed on horseback. He says "the wild boar is generally of a dark brown or iron grey color, inclining to black, and diversified with black spots or streaks. The body is covered with coarse hairs, intermixed with a downy wool; these hairs become bristles as

they approach the neck and shoulders, and are here so long as to form a species of mane, which the animal erects when irritated. The head is short, the forehead broad and flat, the ears short, rounded at the tips and inclined towards the neck; the jaws are armed with sharp crooked tusks, which curve slightly upwards, and are capable of inflicting fearful wounds; the eye full; neck thick and muscular; the shoulders high; the loins broad; the tail stiff, and finished off with a tuft of bristles at the tip; the haunch well turned, and the legs strong." The wild boar is a very active and powerful animal, and becomes fiercer as he grows older. Some travellers assert that he lives to be 30 years old, and not unfrequently attains the height of forty inches at the shoulder.

The old English hog Youatt describes "as long in limb, narrow in the back, which is somewhat curved, low in the shoulders, and large in bone; in a word, uniting all those characteristics which are now deemed most objectionable, and totally devoid of any approach to symmetry. The form is uncouth, and the face long and almost hidden by the pendulous ears. They nevertheless have their good qualities, although aptitude to fatten does not rank among the number, for they consume a proportionately much larger quantity of food than they repay; but the females produce large litters, and are far better nurses than those of the smaller breeds. They are, however, now nearly extinct, disappearing before the present rage for diminishing the size of the hog and rendering his flesh more delicate; points which, however desirable to a certain extent, may easily be carried too far. Low judiciously observes: 'While we should improve the larger breeds that are left us, by every means in our power, we ought to take care that we do not sacrifice them altogether. We should remember that an ample supply of pork is of immense importance to the support of the inhabitants of this country. England may one day have cause to regret that this over-refinement has been practised, and future improvers vainly exert themselves to recover those fine old races which the present breeders seem aiming to efface.'

From a mixture of these materials, namely, the fine compact, round Chinese, with the strong rugged, wild boar, and the great, coarse, long, deep, flat-sided old English hog, it will be seen at a glance how numerous the breeds could soon be made; and when we take into consideration the modifications which arise from the different treatment of swine throughout Asia, Europe, and America, and the difference in climate, we shall cease to wonder at the innumerable varieties which now pervade the world. No animal can be more rapidly changed in its general characteristics than the hog; and nothing improves faster with care and good keep, or more quickly degenerates from neglect and poor feed. If wild hogs are wanted, they can soon be obtained by letting them run unattended a few years in the woods; but if a choice domestic breed is sought after, it can only be had by judicious crosses, good feed, and keeping them in pens, or within the bounds of moderate sized fields.

FROST BITES should be rubbed with cold flannel or fine snow, avoiding the fire, or even a hot room.

GRAPE CULTURE AND WINE MAKING IN NORTH CAROLINA.

In a late number of De Bow's Commercial Review, there is a long paper on grape culture and wine making in the south, by Dr. Sidney Weller, of Brinkleyville, Halifax County, N. C. It appears from his statement, that, during his last vintage, he made 40 barrels of wine, which readily commands from \$1 to \$4 per gallon. His wines of inferior quality are made by adding, as a preserving ingredient, one fourth part, by measure, of good brandy; and those of the finest flavor receive three pounds of best double-refined sugar per gallon. "Spirits," he says, "add their own bulk to the volume of the liquor; sugar adds very little to the volume; hence, mainly, the difference in price."

The variety of grape, which Dr. Weller considers best adapted for the south, is the White Skuppernong, said to have been first found on Skuppernong Island, in the river Roanoke. When properly managed, it does well everywhere south of latitude 37° north, and the grapes attain a very large size. "I have frequently measured selected ones," observes Dr. Weller, "and found them to be three and a half inches in circumference; two I have found four inches round. They are ripening here about two months; and that period ensures successive gatherings; and the most delicious of grape fruit." The kinds next in esteem to the Skuppernong, are Weller's Halifax Seedling, Norton's Virginia Seedling, Le Noir, North Carolina (Bland's Virginia?), Hunterville, Franklin, and some other varieties, which are not inclined to rot.

Dr. Weller thinks it decidedly best for the American vine grower to start his vineyard with well-rooted vines, reared in a nursery or elsewhere from cuttings or layers. "Even in grafting," he says, "it is better to begin in the nursery and transfer into the vineyard after a year's growth." This is a common method with him, although a considerable portion of his vineyards has been obtained by searching the woods late in the spring, when the vine is in leaf, and getting stocks and roots of the fox grape, or other wild varieties in the vicinity, an inch or more in diameter, grafting them with scions kept back from sprouting in a cool place, of Weller's Halifax and Norton's Virginia seedling, and then planting them in his vineyard 10 feet apart each way. He says it is the uniform result of long experience, that, if grafting be effected on stocks thus procured or dug up from the woods, with due pains taken, success will surely follow, if done at any time from the complete fall of the leaves in autumn until late in spring, or even in summer, when the scion can be kept back from sprouting. But if the graft be on a stock, not dug up, nor stand where it is to remain, the grafting must be performed in early winter or in the fall.

In grafting the vines, all that is to be done, is, to saw off the stock within a few inches of the ground, and insert a scion, containing two or three buds, wedge-fashion, or otherwise, as in grafting fruit trees; and then, without any clay or grafting wax, to draw earth around the stock, a few inches high, leaving one or two buds exposed to the sun. But to avoid disappointment, the vine dresser should be aware that more trouble and attention is required in pulling off sprouts from the old stock, as they spring

forth to rob the scion, than in the first process of grafting itself; and this is more frequently the case in grafting on stocks, standing in their original sites, than in those procured from the woods. To compensate for this, however, the growth from the former is much greater than from the latter, being, in the first instance, not uncommonly 30 feet in a season, and in the other only 8 or 10 feet. Grafts often bear fine clusters of grapes the first season of growth, and pretty considerably the second. A few years since, Dr. Weller says that he had the curiosity to measure the second season's product of a Halifax vine, which he had grafted on a tolerably large stock. It was half a bushel of fine grapes—equivalent to a gallon and a half of wine, if made with sugar, as the keeping ingredient, or two gallons if made with spirits.

Another reason, assigned by Dr. Weller, why it is preferable that an American vineyard should be started at once with rooted vines, is the greater distance they may stand apart. "The very luxuriant, far-extended growth of grape vines in our forests and hedge rows," says he, "is the true *godal* of nature, pointing out the *unerring* plan for an American vine grower to pursue. So long as I disregarded that model, I found the vineyard an uphill business. But the wished for success followed, after giving ample room, on every side for the vines to expand themselves—first unchecked in length upwards, and then sideways, on trellises and scaffolding, so that, at length, underneath the canopies, nothing is to be seen from 6 to 8 feet from the ground, but main vine stems and supporting posts. The common distance apart, I have planted Skuppernong vines, is 20 feet, and other kinds 10; but I now consider 20 feet too near for the Skuppernong, 30 or 40 feet being better, unless it is calculated to remove every other one before they become too large. A Skuppernong fourteen years old, from planting, I measured to-day, and it covers an area whose diameter is 50 feet. Another, now in view from my office, runs 30 feet on scaffolding, and then ascends an aspen tree, spreading over its branches to the height of 40 feet; the aspen tree full of grapes, so to speak. About ten years since, I planted two vines of this kind in the garden of a neighbor—trained from the garden on some oak trees, in a grove. A barrel of wine was made from it, last vintage, besides an abundance of fruit for family use; and I was assured, that, if all the grapes had been saved, another barrel would have been the result. A vine in the lower part of this state, near Skuppernong Island, in the Roanoke, produces its annual yield of five barrels of wine, I am most credibly informed. With myself, and others in this region of country, Skuppernong vines have produced at rates of 2,000 gallons per acre."

Another of nature's models, Dr. Weller says, gave him a hint to let his vines have the same advantages, as to roots, as those of the trees of the woods, or old piny fields; that is, to secure the falling leaves, in autumn, from blowing away, by scarifying the ground about the roots, in order annually to increase the fertility of the soil, instead of direct manuring.

In reference to the preservative ingredient necessary for keeping good wine, Dr. Weller contends, that there is an error in the practice of American wine

making, founded on the false idea that the juice of our grapes is as strong as it is in foreign countries; and, consequently, needs no other requirement in safely keeping our wines. All good authorities on the subject, he asserts, concur in the idea, that, while American vineyards far exceed European in yield, they fall far short in the strength of the juice; and, therefore, corresponding keeping ingredients must be used, or no adequate success can be expected. He says that he, as others, has made wine without such ingredients, when the grapes were quite ripe, and shrivelled; but this will not do as a business, since the quantity of juice is small, and the fruit may drop or spoil, by being left too long on the vine, which show that the plan is unprofitable even if it were practicable, without some preservative ingredient as sugar, spirits, or both. He farther states, that, some years since, he experimented in that way to the loss of half of his vintage. "But with a steady eye," he adds, "to the physical fact of the comparative weakness of the American grape juice, and adding a plenty of sugar or brandy, or both, I have lost no wine for several years; and from reliable sources, I learn that most European wines, for safe keeping, have spirits added to them, more or less, as the Port wine, ere it crosses the ocean, one third; and I venture the suggestion, that, if more of the spirits made in this country, were added to the grape juice, or used as in wine making in foreign countries, instead of being drank in its crude state, it would be much better for the temperance cause. * * * * * One thing is certain—all wine, properly so called, has alcoholic power therein, generated by fermentation, if not otherwise acquired. Scripture wine was clearly alcoholic, from the fact of its excess producing intoxication, and the Bible warns against drunkenness by its intemperate use."

In speaking of his own experience in wine making, Dr. Weller states, that, in September, 1846, he made 33 gallons from five bushels of white Skuppernong grapes, half green ones, two bushels of purple Skuppernong (Bland's Virginia grape?), and two and a half bushels of common bunch grapes of the woods, with the addition of 20 lbs. of Muscovado sugar and 8 gallons of good apple brandy. The grapes were mashed between two wooden rollers, the juice of which was allowed to ferment two hours. It was next strained through the folds of a woollen blanket, as it run from the press, and then put up in a new cask, fumigated with a sulphur match, where it was allowed to stand, undisturbed, in a wine cellar, until the time it was racked off. This wine sold readily under the name of "Weller's Skuppernong Champagne," at \$2 per gallon.

In another instance, seven and a half bushels of white Skuppernong and three and a half bushels of colored Skuppernong grapes were mashed at night, pressed and strained off, the next morning, which yielded 31½ gallons of juice. The liquor was then put up into two separate casks, one containing 20 gallons of juice, to which were added 50 lbs. of common brown sugar, increasing the volume of the liquid to 23 gallons; and the other containing 11½ gallons of juice, with the addition of 34½ lbs. of double-refined crushed sugar, which increased the liquor to 13 gallons. The former was sold under

the name of "White Skuppernong Hock," at \$2 per gallon; and the latter, at \$4 per gallon, under the name of "Red Skuppernong Hock," and was pronounced by good judges, as superior to foreign wine.

EDUCATION OF FARMERS.

It is a matter of profound astonishment to all who have ever seriously thought on the subject, that in the liberal provision made for the study of the different branches in our schools and colleges, agriculture has been so entirely neglected. Millions of dollars have been paid the professors of theology, law, medicine, astronomy, mathematics, languages, history, natural philosophy, zoology, botany, geology, mineralogy, chemistry, and the destroyers of life and property, and scarcely anything yet for agriculture! One would suppose among a people, the great majority of whom are dependant upon the occupation of this art for their existence, that the study of an improved culture of the earth would be paramount among them. Not so, however, in this country; that is left to take care of itself, and come by intuition or not at all. With all their ample school funds, paying incomes of several millions of dollars annually, the older states do but little for agriculture; and the new ones, though even more liberally endowed, follow in their footsteps.

It was with some surprise that we saw stated in the Journal of Commerce, of this city, not long since, that the general government had given to Ohio, Indiana, Illinois, Michigan, Iowa, and Missouri, three hundred thousand acres of land for colleges and academies, and five millions, five hundred and fifty thousand acres for common schools, besides paying three per cent. of all proceeds of public lands over to these and other states in which they lie.

What magnificent grants! And pray what is done with all this land and money? Most of it we will believe is faithfully expended in teaching the children of these states the essential branches of education, such as reading, writing, and arithmetic; while we know a good deal of it goes to make theologians, doctors, and lawyers. All these are necessary in their way, especially the former; and no one would be more liberal in the education of what is technically termed, *par excellence* professional men than ourselves; but if the choice lay between an elevated education of a professor of agriculture, rather than that of law, we should decide at once, if any must suffer, it should be the latter, and not the former. But there is no need of this suffering; yet there is very great need that professorships of agriculture should be endowed and more honorably thought of throughout the country. For many years past, European governments have been quite alive to the importance of agricultural schools, and every little while we find in our foreign journals, notices of new ones springing into existence like the following:—

A writer on the subject of the low state of agriculture in the county of Cornwall, says, "but it is to be hoped that this will soon be improved. Hitherto, there has been no institution where the sons of farmers could be properly educated. A new agricultural school is about to be erected; to it will

be attached a model farm. The pupils will receive a good practical education, to which will be added a knowledge of the natural and other sciences so requisite to agriculture. The terms, I believe will be fixed at such a price as to be within the reach of all. It will then rest entirely with the parents whether they wish their sons, destined to cultivate the soil, to become acquainted with the science of agriculture based on true principles, or to plod on the old jog-trot way, remaining in total ignorance of those principles of which I am sorry to say many of the farmers of Cornwall are."

Now let us *hope* also in this matter, and not only *hope* but *act*; then shall the profession and practice of agriculture take that high stand among us, which the immortal Washington gave to it when on earth—exalting it above and before all others

HOW TO MAKE FRUIT TREES BEAR.

THE Southern Cultivator, it seems, has taken exceptions to our reply to J. S. Peacocke's inquiry, in our November (1847) number, in relation to the non-productiveness of a pear tree, which blooms well and puts forth leaves in profusion, but in a short time the blossoms all fall off. According to the *theory* of the editor of that paper, the failure in fruiting "arises from too great luxuriance—the organization of too much wood, which robs the fruit germs of their share of nutriment." "The remedy," he says, "is to prune both the roots and the branches of the tree. Prune its roots and you will see that the petals will hold on for a due season, and fruit come to maturity."

What is here recommended may prove true at the north, and perhaps it may also apply to the south. We therefore would not discourage its adoption, but should hope that the *theory* might be tested along side of our own.

ON REARING CALVES.

THE business of raising calves, some persons treat, as of no great importance, sometimes feeding them twice a day on milk, another day so much, and a third day, with a quart or two less, just as it may happen. But this irregularity is a great mistake, as young calves need constant care, as well as chickens, pigs, &c. Many people take more pains in feeding their dogs and cats than they do with their cattle and hogs, all of which, I admit, should be well fed to be useful and to thrive. For, in order to have fat pork, you must feed your hog, or pig well; or to have a large fat cow, you must take good care of her when a calf. This I consider the best and the only way to have good cows.

Last year, I raised a calf, which I bought when only two days old, and took it immediately away from the cow. I first began to feed it on milk and English hay tea. As soon as my stock of hay was gone, I commenced making tea from salt meadow hay, which I soon found answered very well; for it learned the calf to eat salt hay from the stack, which it seemed almost to prefer to good English hay.

Another way to raise calves, is by hand. If taken from the cow immediately after birth, there will be no difficulty in learning them to eat, first giving them, three times a day, "loblolly," made of half a pint of corn meal and a pint of new milk.

A calf may readily be taught to suck its food, simply by pressing its head into a pan, or pail of loblolly, with one hand, and inserting the fore finger of the other into its mouth. By this means, it will instinctively suck up its beverage. When calves are about six weeks old, you may turn them out into a field of grass; and if you wish to force their growth, continue to give them loblolly twice a day. By so doing, you may increase their size fully one third. In summer, about mowing time, it is well to give them some cut grass. In winter, the best thing to feed them on is pumpkins, turnips, and potatoes, cut into fine pieces, with small "nubbins" of Indian corn, and a little salt or fresh hay.

Some persons, in summer, turn their calves into the road to pasture, while others drive them to the mountains, and back again in the fall. In winter, they feed them on salt hay; but I do not like the plan of letting them run at large. It stunts their growth, and makes them poor and lean. If you want a good fat calf, you must constantly keep him under your care and feed him well, which you will find far preferable to any other way. W. G. B.

Newark, N. J., Dec. 20th, 1847.

PRESERVING EGGS AND FRUITS—EGG NOG, &c.

INCLOSED I send \$2 for three years' subscription of the *Agriculturist*, which I regard as one of the best papers in the United States. Although I am a manufacturer, I cannot do without it. My wife says it is worth \$20 to her for culinary matters. Last May, I put up, according to the directions in your published receipt, a large jar of eggs, at four cents per dozen; and this morning, I took them out to make egg nog for the ladies (Lord bless them; for they must all have egg nog on Christmas, in Kentucky), when I found them as fresh as the day when they were put up. My currants, gooseberries, and cherries, also preserved after your receipts, are all as fresh as a new-blown rose.

My neighbors wish to know where I get eggs at four cents per dozen, while they are paying this morning forty cents a dozen—or no egg nog. I tell them they do not subscribe for the *Agriculturist*, a great paper published in New York, which if any man dare not take, he is certainly blind to his own interest. C. I.

Louisville, Ky., Dec. 25th, 1847.

OLD PEAR TREES IN BOSTON.

FROM the authority of the late Samuel G. Perkins, in the *Horticulturist*, we make the following extract, which shows the fallacy of the popular notion that fruits "run out," in consequence of the death of the parent tree:—

The French Huguenots, who settled in and about Boston, in the early part of the last century, were many of them men of wealth, for that period, and they purchased house lots of considerable extent in the town of Boston, and in the towns in its neighborhood, which they stocked with the best fruits of their native land. This fact is not only a matter of history, but within my day; for I can look back and recollect distinctly the many gardens that were furnished with the largest trees of the finest fruits, that were common throughout the town even as late

as the year 1810, or even 1815, after which the increased population covered the gardens, and most of the trees, with their luxuriant fruits, soon disappeared. There are a few solitary trees of the old fruits, of a hundred years standing and more, left in yards, which continue to produce the finest St. Michaels, Saint Germain, Brown Beurres, Vergouleuse, Winter Colmars, Winter Good Christians, Easter Bergamots, Mesire Jeans, etc., as fine as they did fifty or sixty years ago; but of those, only one old fruit garden is left, that I recollect, and that is the one belonging to the late S. P. Gardner, Esq., in Summer street. Here these fine fruits are all raised in perfection, on trees probably more than a century old, under their proper and appropriate names.

MANAGEMENT OF HONEY BEES—No. 16.

Reason and Instinct of Bees.—Perhaps there is no insect that manifests so great a degree of knowledge and art in its domestic economy, as the honey bee. The beautiful architecture displayed in their never-varied hexagonal cells, their perseverance and industry in laying up stores for winter use, the astonishing expedients made use of in repairing accidental damages to their internal household arrangements, together with the perfect harmony exhibited in their civil relations, put to shame the vaunted science of man, and his boasted ability for self government. Many acts of the honey bee seem to be an inherent knowledge, while others appear to be the promptings of acquired reason, and it is a question whether every act is not the effect of instinctive knowledge, implanted from birth. It must suffice my present object, to give a few instances of reason and judgment, manifested by bees, under my own notice, and to make a few remarks upon their general habits and customs.

When the young brood is fully matured, or a sufficient number thereof, to form a swarm of say, ten thousand bees, a queen is ready to sally forth with them. Instinct has taught them to provide a sovereign, and teaches them that they must depart. In this departure, they manifest a knowledge equal to that of human beings. They never venture out when there are the least symptoms of unfair weather. High winds also prevent their egress; but when everything is propitious, they rush to the outlets, on a signal being given, headed, or followed by their queen. Now mark the slow and beautiful girations of the dark mass as they hover gently around the hive, to give all that is necessary a chance to join the emigrant family. But why alight on yonder slender bough? It is to be assured of the presence and safety of their queen. Now they are fully clustered, let us approach the pendulous mass. Hark! Do you hear the buzz that resounds among them—do you see how the masses move in eager and disturbed commotion? *Their queen is left behind, or has been unable to gain the cluster*—now they leave by hundreds, and return to the hive! On the morrow they will again come forth, and after clustering and being assured of the presence of the queen, unless a hive is tendered them, they will take a sudden and rapid flight to the forest. It is seldom that the queen remains behind, but in such a case, the bees show the most intense anxiety and distraction. A

ship in a storm, without a pilot—without a helm, and being suddenly supplied with both, would not sooner dispel the fears of the affrighted mariners, than would the appearance of the lost queen tranquilize the commotions of the agitated swarm. Without a queen their ruin is certain, but instinct teaches them never to leave without her.

This is but one instance in a thousand of the manifestation of reason in their acts. The knowledge displayed by them, when attacked by the moth is remarkable. On the first lodgment of this pest, they use propolis to cement them in, and when the worms show themselves, they are dragged down, and ejected from the hives. I once saw several bees at work upon a very large moth worm, and on examination, I found they had disjoined every leg, and then they left it. It remained alive twenty-four hours without the least power of locomotion. When, by accident, a leaf of comb becomes detached, no human knowledge could devise better means of remedy. Pillars are constructed to support the detached parts, till they can be firmly fastened, when they remove them. On placing a piece of comb filled with honey upon the floor of the chamber of one of my hives, for the purpose of feeding, in the month of May, I found on the second day, that the bees had by some means raised this piece of comb about half an inch, and had constructed several pillars to support it. The reason of their raising it, was because it covered some of the centre holes that communicated with the chamber of the hive.

A rather singular circumstance occurred this last summer, with one of my stocks of bees, showing a judgment and reason, worthy of particular notice. One of my stocks that had lost its queen during the early part of the season, while there were no larvae in the hive from which a new one could be formed, was suffered to remove in consequence of my absence, in its position, till it had become entirely depopulated. On returning, I found the moths had taken possession, and the bees of the adjoining hive being aware of this, commenced building a wall of propolis along the entire entrance next adjoining this infected hive, to prevent any incursions of the enemy on that side. The bottom boards were hung about the same level, and only a few inches apart. This wall was not fully finished, but it shows a reason and knowledge of adapting means to ends far beyond the ordinary tribes of insects.

But a very remarkable instance of sagacity occurred a few years ago, under my own eye. I had a few hives made, originally, with holes of ingress and egress, about two inches from the bottom board, say half an inch wide, and three inches long. When I commenced suspending the bottoms, I shut up the aforesaid hole, to one of my hives by a strip of shingle, with a nail driven through one end, so as to admit of being raised up, and shut down, like the operation of a wooden button; with this difference, the shutter turned on a pivot at the end, while a button turns on the centre. With an opening around the entire bottom of the hive, I supposed this upper entrance would not benefit the bees; yet at times, I raised the shutter till it got so loose that it would fall of its own gravity. In this way, it was up one day, and down the next, for some weeks, till one morning I beheld about a

hundred bees at work upon it while up, and the hole open, and during the day, they glued it to the hive with propolis, so as to require a considerable effort to remove it! Being satisfied that the bees wished to have it remain in that position, I did not disturb it thereafter.

Various other acts showing that bees possess the faculty of reason, in an eminent degree, have come under my observation, but the above are all that my limits will permit of being narrated.

T. B. MINER.

Ravenswood, L. I., Feb. 1848.

ON THE GENERAL MANAGEMENT OF THE PEACH TREE.

THE peach tree, as a standard, in this country, appears to be short lived and irregular in bearing. The cause of this, I attribute to the want of training, thinning the fruit, and pruning the more fibrous roots.

I would recommend the planting, by all means, of maiden plants, worked on plum stocks, which are much hardier, and have a greater tendency to luxuriance. The holes should be dug out from four to six feet square, with a substratum of lime rubbish, firmly beaten down, and covered with a prepared soil not deeper than one foot. The ground about the tree should not be cropped, but should be covered with rotten dung, and decayed leaves, during winter, which should be carefully forked in early the following spring, and hoed and kept clear from weeds during summer.

Planting peach trees in a kitchen garden, is a bad practice, although generally prevalent. The vegetables so grown, seldom attain a proper size and flavor, without injuring the fruit above them.

I would also recommend training the trees to a hoop placed inside, and the shoots made to represent an inverted umbrella. The general pruning to be done after the buds break, and then with the thumb, displace all superfluous shoots, leaving only those wanted for bearing the next season. The fruits also should be thinned, which makes them larger, earlier, and finer flavored.

WM. WHEDDEN.

New Rochelle, N. Y., Dec. 14th, 1847.

HAULING FUEL.

THE advantages of using dry wood for fuel, instead of green, must be obvious to every observing mind. Green wood, cut in winter, in lengths of four feet, and split fine enough for convenient handling, may be drawn together and piled up, near the site where it grows, so as to be well exposed to the sun and air, with the tops of the piles secured against storms, by a covering of boards, where, in a few months, it will become sufficiently dry for use.

In treating wood in this manner, there is frequently a gain in hauling of 20 to 25 per cent. by reason of the loss of weight in drying, as well as its improved condition for the fire. It was estimated by Count Rumford, that an average cord of green wood contains more than two hogsheads of water; and the waste of heat in evaporating this quantity of water, would raise thirteen and a half hogsheads of water to a boiling point. The buyer of wood may learn from these facts the advantages of dry wood over green, as an article of fuel; and the seller, who has the wood to draw, may learn how to economize labor, by drying his wood. and thus disposing of one fourth of its weight.

YANKEE FARMING.—No. 2.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

The Want of a Poultry House.—It was a cold, frosty night, with a deep snow lying on the ground, in the latter part of the month of February, that having nothing particular on hand to attend to at home, I thought I would go down and pass the evening with Mr. Doolittle. I rapped at the door, when at the usual "come in" of his deep, hoarse, voice, resounding through the hall of the old house, I ushered myself into the kitchen without further ceremony, knowing full well that there I should find the family; for, being so near a neighbor, it would have been considered over precise in me to have sought them anywhere else.

Uncle Sim's family consists of his wife, a tall, lean woman with sharp features, familiarly known over the neighborhood as "Aunt Nabby,"—a roughish, hazle-eyed, rosy-cheeked, buxom daughter of fourteen, happily, unlike either parent; a tall, gawky son of seventeen, in features closely resembling the mother; and a stout, ruddy lad, some five years younger, a picture of the father. As to the character of these personages, I shall let that develop itself, as I proceed in my sketches.

The kitchen is such as is common in old-fashioned country houses. It is a long, low room, with large, dark brown-colored beams and joists over head, and plank wainscoting, and partitions of the same color all round. A huge fire place, at least eight feet in length, made of heavy granite blocks, faces one side of the room, a buttery is partitioned off at one end, and the sleeping chamber of the master and mistress at the other. Aunt Nabby was sitting bolt upright before the fire, in a straight-backed, old-fashioned rocker, with arms attached to it, knitting her husband a pair of blue yarn stockings. Mary, the daughter, or "little Molly," as we generally call her, graced a strong, old oaken stool at her mother's feet, and was engaged in hemming herself a petticoat. Uncle Sim, in his shirt sleeves, the perspiration rolling freely down his burning forehead, and with a huge, iron-rimmed pair of spectacles mounted on his blunt nose, was astride a wooden shaving horse, with drawing knife in hand, finishing off a hickory axe helve. The oldest son sat at a table by the side of a dim tallow candle, doing sums on the slate, in decimal fractions, from Daboll's Arithmetic; while the youngest, at the further end of the fire place, perched on the blue dye tub, was alternately studying a lesson in Webster's Spelling Book, by the light of the fire, and gazing up the huge chimney at the bright stars sparkling in the clear wintry sky. In Aunt Nabby's lap lay a sleek tabby cat, purring harmoniously to the bubbling of a pot, in which was stewing dried pumpkin for sauce; while on the opposite side of her and Molly, lay couched fast asleep, a middle-sized, brindle-colored, bob-tailed dog, now almost blind, and completely superannuated by farm service, woodchuck killing, and coon hunting. A rural group, indeed, but such as it always gives me pleasure to see; for they are good people in the main, and useful to themselves and others.

"Take a cheer," said Uncle Sim, as the tall lad dropped his slate and pencil and handed out a seat

for me before the fire; "and Molly, go draw a mug o' cider, that's a nice gal, now. Pretty cold out, ain't it, Sargeant? I hear the nails snappin' by the frost outside the house every now and then, as loud as the firn' in your company on trainin' day."

Scarcely had he finished these observations, when the sprightly Molly appeared before her father, holding out a large, bright, pewter mug, brim full of sparkling cider, which she had just drawn from a barrel in the cellar. Uncle Sim wiped the perspiration from his brow with the shirt sleeve of his right arm, next his mouth with the back of his hand, took a good swig, and then handed the mug to me, but declining the proffered beverage, he replied, "Oh, I forgot—joined the temperance and won't drink nothin' but water. Wal, 'every one to his notion, as the old woman said when she kissed her cow.' But what's the use o' apples growin' if a body can't make 'em into cider? What's the use o' cider if ye can't drink it? Aye, and what's the use o' anything if it can't be used? I'd like to know, now, Sargeant?" With this argument, Uncle Sim put the mug again to his mouth, cocked his eye up to the ceiling, and draining it to the last drop, slapped it down on the old oaken table, bottom side up, with a "wal" and a loud smack of his lips, "I didn't think I was so thirsty, raelly; 'tis-mazin' dry work makin' axe helves o' nights."

"Do tell, Sargeant, now," interrupted the impatient Mrs. Doolittle, "have you hearn anything about that 'ere patent hen's neest, way down to Inventionville, that keeps the hens layin' all the time? We haven't had a egg all winter, and I am dreadful fearful we shan't get one for settin' in the spring. Mr. Doolittle says he don't believe a word on 't; but I do, every bit; for I see it in the almanac; and the way was, as soon as the hen laid the egg, it rolled down through a little trap door into a basket, when the hen looking under her, couldnt find nothin' there, so concludin' she'd made a mistake and hadn't laid, she begun agin, and so kept on layin' as many as three or four a day, sometimes. He only asks five dollars for his patent; and sartin true, if I had one now, I could sell eggs enough before settin' time, to buy Molly a bran new silk frock, though she hardly deserves one; for she took it into her head last year—'cause she read it in somebody's book, or farmin' paper—I wish the feller half choked with a rotten egg who wrote it—that all the round eggs hatched pullets, and all the long ones roosters; so she sot nothin' but round ones, thinkin' she'd raise plenty o' pullets to winter over this year; but we never had so many rooster chickens afore in all my born days. I told Molly, says I, Molly, I don't believe nothin' about the pullet and rooster eggs; for I know'd well enough some hens laid all round eggs, and some all long ones; some laid 'em white, some brown, and some kinter speckled; for I've watched 'em many and many a time, when I was a little gal, and could ollous tell every hen's egg on my father's farm. Yes, I remember well, old speckle laid brown eggs, the black hen had 'em as white as chalk, and young blue, massy on me! her eggs was as long as my middle finger. Nobody never thought then that shape made he's or she's; it was one o' them blunderbuss book farmers that disskivered. that. Wal, as I was a sayin', we had most all rooster

chickens last year, and so we had few pullets to winter over; and then comes that pesky owl—Bill!" she exclaimed, turning to her oldest son, "if you had a shot him instead o' them 'ere good for nothin' chipmucks, you'd a done some good—and carries off half on 'em o'ready, and two o' the best o' our yaller hen turkies I ever seed in all my mortal-born days. I sot everything by 'em," said she, wiping a tear from her eye, with a corner of her clean checked apron. "If this is to be our luck, Molly, I may jest as well quit raisin' chickens first as last, and go to hatchin' ducks. Oh, Sergeant! I heard Miss Goodell, I mean the Major's wife, tell the most uncommon story ye could ever think on. All on us was up there quiltin' last week, when she told us, says she, they had a hen that hatched out ducks eggs one year, and when she went down to the water with 'em, she was so frightened when they swim'd in, about their drownin', that she waded arter 'em, which Miss Goodell seein', to prevent the hen drownin' in earnest, cotched her out, and sowed a piece o' hog's bladder to each foot, makin' it kind o' web fashion; when in she goes and swims about as well as any duck o' the best on 'em. But the strangest thing o' all was, when she had hatched out ducks two years runnin' they sot her on her own eggs agin, and, as soon as they come out, she led down the chickens to the water, and 'cause they wouldn't go in like ducks, she takes 'em up one by one in her bill, and throws 'em in; and when she seed 'em all drown, one arter another, in she goes and would a drowned herself for sorrow, hadn't they run and got her out and shut her up till she forgot it and went to layin' agin."

How long Aunt Nabby would have rattled on at this rate, I am sure I cannot tell; for as Uncle Sim was in the habit of quaintly remarking "when she got a talkin' in earnest, her tongue was like a log rollin' down hill, there was no stop, till it got to the bottom." But fortunately, the water by this time had pretty much all boiled away in the pot containing the cooking pumpkin sauce, and it began to smell as if it were burning, when Mrs. Doolittle jumped up to fill it from the tea kettle boiling by the side for this purpose. So I took the opportunity, as a sailor would say, of putting in my oar, with a talk to the eldest son, and reading the family a lesson on the careless manner in which they kept their poultry.

"Now William," said I, at the same time patting the bright-eyed Molly gently on her rosy cheek, "if you had listened to your pretty sister here last fall, and built her a poultry house, instead of going out squirrel shooting so often, and not killing enough to pay for powder and shot, to say nothing of the loss of your time; you would have saved all the hens that have been lost this winter; besides they would have kept so warm and fat, that they would have been laying more or less these two months past, and you might now have had a great number of eggs which would have brought three times the price in market that they will a month hence. You have not only lost in the poultry carried off by the owls and in not getting the eggs they would have laid, but also in the injury which they do to the roof of the barn and shed, and to the young fruit trees where they roost, as well as in their manure, which you know, I sup-

pose, is highly valuable. If it were all saved and mixed up with ten times its quantity of muck from the swamp, and thus applied to your onion beds, you would get one hundred bushels where you now raise twenty. Thus you see there would be a gain all round, to say nothing of the barns and sheds looking so much neater than they now do; and enough would have been made from a poultry house, which need cost you only a few days' work and a little refuse timber, not only to purchase your sister a new silk dress as your mother and, I dare say, she herself desires, but some books also, and a summer's schooling at the village academy; an advantage she often sighs for, do you not "my dear," said I, turning round and pressing her hand gently in mine. "Oh, yes, said she, Mr. Teltrue, indeed I should;" for owing to her own refined natural taste and the advantages of associating with some young ladies of superior education in the village, at Sabbath school, her language was free from the dialect of her parents; "and then if I should ever come to want, I could myself earn a genteel living by teaching, which I am sure would please me much better than going to work in a factory, or round the neighborhood sewing, although many nice girls do so, and deserve credit for it, too, I know; but I am sure I should like books better, it seems so superior to be taught, and then teach again. When a little girl I tried to teach pussy her letters, I wanted so much to hear her read."

"All right, Molly," said Uncle Sim, who I expected would join his son against me, as was generally the case when I proposed any reforms, especially where books were concerned, "and you shall go to the academy next summer, if you will, my darlin'; and I'll take Bill's gun away from him, but you shall have a hen house next fall."

"Massy on me!" shrieked Aunt Nabby, and ran up to the side of her husband, and clasped his arm with the utmost trepidation. "Why, what's the matter now, mammy?" said Uncle Sim, with apparent concern, lifting up his spectacles, and throwing down his nearly finished axe helve. "The owl! The owl agin!" Here we all jumped up and turned our faces to the kitchen windows, when out broke a long hoot, of "Whoo, whoo, hoo-o-o-o-o" of the great horned owl, which I will defy the stoutest heart to hear break suddenly upon it on a cold winter's night, without quaking, especially if the dolorous bird happens to be answered, as was the case this time, with the shrill wail of the screech owl. An Indian's war whoop is scarcely more appalling.

"Where's the gun, Bill? Get the gun, quick, and put in a double charge o' powder, and nine buck shot, mind," said Uncle Sim, shaking his arms and hopping about on both feet, something like an old cock with his head just cut off.

"It's already loaded, father," replied the youngster, who had that moment taken it down from the hooks, where it hung at one end of the kitchen, and was pecking the flint. "Hand her here, then," said Uncle Sim. "Better let me shoot, father," responded the lad, "as I guess I'm the best marksmun and most used to it." But no persuasion would answer with Uncle Sim—"his dander was up," as he termed it—"he warn't a goin' to be hooted at and bullied by an owl, not he, and have all his chickens carried

off in this 'ere way; he'd fire the gun to tarnal splits first." So it was settled that Aunt Nabby, Molly, and the younger boy, should each hold up a lighted candle in both hands at the kitchen windows, for the purpose of dazzling the eyes of the owl; that Bill and myself should sally out with a horn lantern towards the opposite side of the barn, where the owl appeared, to attract his attention still more; while Uncle Sim was to creep softly along the garden wall that led to the barn yard, arriving at which place, he would be point blank distance from the gable end of the barn where he thought the object of his wrath had alighted. In a few minutes this was all accomplished, and we were gradually nearing the barn, at the opposite end to Uncle Sim, bearing the lantern high in the air, when bang went the gun with a thundering report. Instantly dousing the light, I thought I saw something flit towards the woods near by, and at nearly the same time, I heard a dull rebound on the snow. This was followed by Uncle Sim running towards the house, triumphantly swinging round his head a large bird, and crying out at the top of his voice, "I've got the tarnel critter! I've got him! I'll show him what eatin' chickens is! I guess he found cold lead warn't quite so comfortable in his stomach as soft eggs! I'll teach him to hoot quiet folks at night agin!"

By this time we had all reached the kitchen door, when Uncle Sim burst in with the impatient air of a conqueror just returned from battle, and the stamp of an old war horse—but Oh, "murder!"—what was his chagrin, and Aunt Nabby's, and ours, when upon bringing the light to bear upon his prize, it was not the big horned owl—he, as I feared, had escaped in that flitting flight—and, instead, Uncle Sim had shot the last of his great yellow tom turkeys!—a bird which he and Aunt Nabby prized next to their children! So much for want of a poultry house.

SERGEANT TELTRUE.

PROSPECTIVE PREMIUMS.

THE following premiums have been offered by the Massachusetts Horticultural Society, for objects which shall have been originated subsequent to the year 1846, and after five years' trial shall have been deemed equal or superior to any varieties of the kind extant at the date the offer was made:—

		Value.
For the best Seedling Pear, the Society's Gold Medal,.....	\$50	
" Apple, do do	50	
" Hardy Grape, do do	50	
" Hardy Rose, do do	50	
" Camellia, do do	50	
" Potato, do do	50	
" Strawberry, the Lyman Plate,	\$50	
" Raspberry, do	40	
" Plum, the Appleton Gold Medal,	40	
" Tree Pæonia, do	40	
" Cherry, the Lowell Gold Medal,	40	
" Azalea indica, do do	40	
" Herbaceous Pæonia do	40	

URIC ACID.—This acid, which forms one of the most valuable constituents of Peruvian guano, is nothing more than the whitish, farinaceous-looking part of the dung of all kinds of birds.

LIME.—It has been estimated that carbonate of lime constitutes one eighth of the entire crust of the globe.

LETTERS FROM ABROAD—No. 1.

In the latter part of August, I safely landed in Oporto. After going through the necessary forms with the authorities on shore, and familiarizing myself with the general features of the place, I set off early on the morning of the 3d inst., in a Portuguese gondola, propelled by two strong Galician oarsmen, in company with three agreeable and highly intelligent merchants, with the view of ascending the Douro into the famous region producing the Port wine.

The river Douro, from the lovely and varied scenery along its banks—its pure bright waters in its calmer moods—and, forming as it does, the main thoroughfare from the very heart of a mountainous, though wealth bearing country, is truly worthy of a sketch in itself. It rises near Soria, in Old Castile, and after traversing Leon and Portugal, for the most part through deep and narrow valleys, receiving in its course, numerous tributary streams, discharges itself into the Atlantic two miles west of Oporto. Formerly, it was navigable only to San João da Pesqueira, about 70 miles above its mouth, where a reef of solid rock obstructed its course. But some years since, this impediment was removed by blasting, and now, flat-bottomed boats ascend, without interruption, quite into Spain. Numerous bridges, from time to time, have been built, at various points; but, in early spring, owing to heavy rains and melting snows from the mountain's brow, its turbid, yellow waters sometimes suddenly rise 20 to 40 feet between its lofty and confined banks, forming a mighty torrent of roaring, foaming waves, sweeping the bridges to destruction, by the irresistible force, with houses, cattle, and human beings and their frail barks into the sea.

As the Upper Douro was the place of our destination after leaving Oporto, our object was to proceed, as fast as practicable, without stopping on the way, until we should reach Regoa, where the wine country may be said to commence. In the evening of our first day's journey, we arrived at a village, situated 25 or 30 miles from the sea, called Entre ambos os Rios, where we passed the night. On emerging from the narrow, precipitous gorges near Oporto, the Douro expands into a lake-like scene, with soft and smiling banks, interspersed with hamlets and villas peeping forth from the varied foliage of the willow, the linden, and the elm, while the elevated backgrounds are covered with groves of lofty chestnuts, cork oaks, or the "evergreen pine." As we progress onward, various-shaped hills abruptly rise from the river's bed and its tributary streams, whose willow-lined banks are frequently cultivated in rich profusion, with the almond, the orange, the olive, and the fig, beset here and there with numerous quintas below, and crowned with forests of the laurel, the chestnut, the oak, or stone pine, in bold relief, against the deep-blue sky. And truly,

"It is a goodly sight to see
What heaven hath done for this delicious land!
What fruits of fragrance blush on every tree!
What goodly prospects o'er the hills expand."

Early the next morning, we sent back our boat to Oporto, having concluded to perform the remainder of our journey by land. As no horse was to be had, we were obliged to put up with his sage

cousin, the mule, the only animal fitted to cross the mountainous region through which we were about to pass. Mounted on our "steeds," attended by a guide and two strong pack mules, we proceeded with a jog-trot pace, along the banks of the river for some distance, where the features of the country appeared less broken, and was cultivated much better than usual. After travelling a few miles we diverged from the Douro, ascending places so steep that it was with great difficulty we could cling to our saddles, at the peril of our limbs, if not our necks. At last, we reached the summit of the hill, descended to a valley crossed by a rapid stream, rose again, and thus continued during the day, through scenery wild and beautiful in the extreme, over river, mountain, and dell, until we arrived among the vine-clad hill sides in the vicinity of Regoa, where, for some days past, I have been pleased to witness in the height of the vintage, the soul-cheering spectacle of preparing to make the luscious Port wine.

Having arrived at the object of my visit, I will now quit romance and impart such information as I may be able to glean, respecting the cultivation of the grape and the manufacture of wine.

The Port wine district, properly speaking, is described, as extending along each bank of the Douro for the distance of about 30 miles, and in most places, is from 6 to 8 miles broad, in some more, and a few less. The greater part of this region is represented as consisting of a reddish-brown limestone, or clayey state, invariably forming the sides of the steepest hills, sometimes so precipitous, that it is no very easy task to climb them, as their elevations are often many hundred feet above the river, with the vines frequently planted to their very summits. These hills are cut into innumerable terraces, 8 or 10 feet broad, with walls, forming their sides, 5 or 6 feet high, built of large stones to support the vines. Every year, uncultivated mountains are brought under cultivation; the line of vineyards are gradually extending eastward; and it is believed that the hills are equally suited to the production of the grape, even to the confines of northern Spain.

No one, on contemplating the immense labor incurred in the formation of these vineyards, can accuse the Portuguese of indolence or want of energy, when they have a sufficient stimulant to incite them to action; for a sufficient number of rugged spots still remain, as nature formed them, to show the wild appearance the banks of this part of the Douro must have borne, before they were brought under cultivation; and, in traversing so great an extent of country, which would otherwise have been the habitation of the wild boar, or of the prowling wolf, one is struck with admiration of the work achieved by the perseverance and industry of man.

F. R. S.

Regoa, Lower Douro, }
September 16th, 1847. }

A LEGAL FRAUD IN MAKING BREAD.—In making bread, the more foreign starch there is mixed with the flour, the less increase of weight does the bread acquire. Thus 6 lbs. of flour produce 8 lbs. of bread; but 3 lbs. of potato starch mixed with 3 lbs. of flour produce only 6 lbs. of bread. The rea-

son of this, is the following:—The grains of starch do not imbibe the water, but only are moistened by it; in other words, it only adheres to them. The gluten, on the other hand, imbibes it as a sponge would do, and the more it is kneaded, the more it imbibes, and the water thus imbibed, adds to the weight of the bread. Hence, this species of adulteration, though not a crime in the eye of the law, is still a fraud, because the immediate result of it is, to diminish, at once, the weight and the nutritive quality of the bread.

PRICES OF PRODUCE.

We are informed that many of the farmers are unwilling to sell their produce at present prices, but are holding on for higher. We fear that all those who entertain such expectations will be disappointed. It will be recollected that the crops of grain in the year 1846, were short in Great Britain, Ireland, France, Germany, the Netherlands, and some other parts of Europe; while the potato crop, the great dependence of the most numerous class of people in these countries, was more than half destroyed. This year the grain crop is abundant in all parts of Europe, and the potato crop pretty good in every country save Ireland. The wants of the people, consequently will not be near so great as they were last year; neither are they so able to pay; for famine and disease, in many cases, have nearly or quite exhausted their means. Nevertheless, the United Kingdom would take a considerable quantity of produce from this country, if it could be had at a moderate price. But for the past six months, most articles of produce have been nearly as high here as in Great Britain. The result is, it cannot be shipped from this country just now, with a prospect of remunerating the produce merchants, and the English people are looking to Southern Russia, Egypt, Italy, Spain, and Germany for the supply of their wants; thus the farmers of the United States are daily losing sales which they may hereafter deeply regret.

It is well known that the crop of corn throughout our country was full one third larger in 1847 than was ever before known; and other crops were an average; we may therefore look for large arrivals of produce, at every commercial depôt on the seaboard, as soon as navigation opens in the spring. Let the farmers of the Atlantic states think of this, and be advised to sell now while they can get good prices, and they have no competitors to contend against in their own market, or abroad. Great Britain will purchase largely of them, if they will consent at once to sell at such prices as will not make the business too hazardous for the merchants to embark in it.

The breadstuffs alone, to say nothing of beef, pork, lard, butter, and cheese, exported from the United States, ending the fiscal year on the 30th of June, 1846, amounted to \$15,987,186; in 1847, to \$51,664,475, making the enormous increase in a single year, of \$35,677,289! The largest share of this immense sum has gone into the pockets of the farmers, and if they will act judiciously in the sale of their products, they may realize an equally large amount the present year as they did in 1847. Quick sales at moderate profits we have always found to be the best.

Ladies' Department.

HOW TO MAKE GOOD COFFEE.

In order to prepare the beverage called coffee, in perfection, it is necessary to employ the best materials in its manufacture. The finest kind of coffee is that from Mokha, and should be used when a very fine flavor is desired; but for ordinary purposes, the better classes of Java, Brazilian, or West Indian, may be employed. It is a common practice in some parts of Europe, as well as in the United States, to burn large quantities of coffee at a time adulterated either with an inferior article or with some foreign substance, and ground to a powder in a mill. This mixture is usually put up in boxes, casks, or papers, and offered for sale at the shops. The most common adulteration, in Europe, is the root of chickory, which is added not only to cheapen the article, but to improve the flavor of damaged, or inferior berries. In the United States, the principal articles of adulteration, are roasted barley, rye or other grains.

In making good coffee, the berries should be carefully roasted by a gradual application of the heat, until the aroma be well developed, and the toughness destroyed. If too much heat be used, the volatile and aromatic properties of the coffee will be injured and the flavor impaired; while on the other hand, if the berries be too little roasted, they will produce a beverage with a raw, green taste, very liable to induce sickness, if not vomiting. Coffee, when properly roasted, should be of a lively chocolate-brown color, and should not have lost much more than one sixth of its weight by the process. If the loss exceed one fifth, the flavor will be materially injured.

As soon as roasted the coffee should be placed in a very dry situation, the drier the better; and the sooner it is consumed, the finer will be the flavor, as it will quickly absorb an appreciable amount of moisture from the atmosphere by reason of its hygroscopic power. Therefore, the berries should not be ground until a few minutes before being made; and should more be reduced to powder than is wanted for immediate use, the remainder should be shut up in a glass bottle, or a tight tin canister or box.

The shape, or description of the coffee pot, appears to be of but little consequence; though, one furnished with a percolator, or strainer, that will permit a moderately rapid filtration, is perhaps preferable. At least one ounce of coffee should be used to make four common-sized cupfuls, and if wanted strong, this quantity should be doubled. The coffee pot should be heated previously to putting in the coffee, which may be done by pouring in a little boiling water. The common practice of boiling the liquid, after the coffee is put in, is quite unnecessary, as all its flavor and aroma are extracted by water at a temperature of 195°F. Should it be placed, however, over a moderate fire, it should be just simmered only for a minute, for long or violent boiling injures its quality.

When coffee is prepared in a common pot, the latter being previously heated, the boiling water should be poured over the powder, and not, as is often the case, put in first. It should then be stirred 4 or 5

minutes, when a cupful should be poured out and returned again into the pot, repeating the operation three or four times, after which, if allowed to repose for a few minutes, the beverage will usually be fine.

Coffee is sometimes clarified by adding a shred of isinglass, a small piece of clean codfish skin, or a spoonful of the white of an egg. An excellent plan of clarifying or settling coffee, common in France, is, to place the vessel containing the made coffee on the hearth, and sprinkle over the surface of the liquid, a cupful of cold water, which, from its greater gravity, descends to the bottom of the pot, carrying the foulness with it. Another plan, which is sometimes adopted, is, to wrap a cloth previously dipped in cold water, around the coffee pot. This method is commonly practiced by the Arabians in the vicinity of Yemen and Mokha, and is said to rapidly clarify the liquor.

The Parisians, when they use a common coffee pot, generally divide the water into two equal parts. The first portion is poured on the coffee boiling hot, and after infusing 4 or 5 minutes, it is poured off as clear as possible, and the grounds are boiled for 2 or 3 minutes with the remaining half of the water. After the latter has deposited its sediment, it is poured off and mixed with the infusion. The object of this process, is, to obtain the whole of the strength, as well as the flavor. The infusion is considered to contain the flavor, and the decoction the strength.

A: J. C.

PHILOSOPHY OF BREAD MAKING.

In the process of making bread, one of the principal objects is to break or burst all the grains of starch, which are contained in the flour, associated with a very fermentable substance, called *gluten*. The finest and best baked bread is made of flour abounding in an elastic gluten, which, in rising in large blisters by the expansion of the gases imprisoned within it, allows each grain of starch to participate in the communication of the heat, and to burst, as it would by boiling. Hence, after baking, if the paste has been well kneaded, we do not find a single grain of starch entire.

The less gluten there is contained in the flour, the duller will be the bread, and the less perfectly it will bake. This is the reason why, other circumstances being alike, the bread made of rye or barley is less nourishing than that of wheat. Wheaten bread will likewise be heavier and less perfect according as the flour has been more or less mixed with other kinds of grain, or with potato starch.

R.

STARCHING LINEN.—In starching linen, the effect will be the same, whether the starch be hot or cold, provided the irons used be properly heated. It is sufficient to mix the starch with a little water, to dip the linen in it, clapping it with the hands, and then apply the hot iron while the linen is still moist. By this means, the grains of starch will burst from the action of the heat of the iron, its membranes will expand as they combine with a portion of the water that is present, its soluble matter will be partly dissolved in the rest of the water, and the linen will be starched and dried by one process.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Caledonia, we are in receipt of our foreign journals to the 18th of December.

MARKETS.—*Askes*, in fair request. *Cotton*, a decline of $\frac{1}{4}$ to $\frac{1}{2}$ d. per lb. *Wheat*, and *Flour*, a slight advance. *Indian Corn*, no change. *Beef*, the same. *Pork*, a reduction of 4 s. to 5 s. per bbl. *Cheese*, improving. In other articles, nothing of interest since our last.

Money was decidedly easier, and good bills were discounted at from 6 to 7 per cent.

Importations of Grain and Provisions into Great Britain and Ireland.—A considerable quantity of bread stuffs and provisions will be wanted from America, in consequence of the rot of the potato, and the natural requirements of the people. We advise our farmers to sell now as fast as they can; for we are of opinion that prices are as high at this moment as they will be this year, and the produce of the United States ought to be moving forward so as to ensure a sale before Russia, Germany, and other European countries have an opportunity of supplying the British market.

Smithfield Cattle Show.—This great annual show of fat stock commenced in London on the 8th of December last. We observe that the Short Horns took the first prize in classes 1st, 2d and 8th; and the second prize in classes 1st, 7th, and 9th. The Herefords took the first prize in class 7th; the second in class 2d. The Devons took the first prize in classes 4th and 5th; the second prize in classes 3d and 4th. The first prize in class 3d, was a cross of the Short Horn and Devon. The first prize in class 6th, was a Highland ox. The first prize in class 7th, was a cross of a Long Horn and Hereford. The first prize of class 9th, was a Long Horn. The Short-Horn prize steer which took the gold medal as the best of their show, it is said, "possessed a greater number of good points than perhaps any other beast that ever appeared in Smithfield." Among the most distinguished exhibitors, we notice Prince Albert; the Dukes of Rutland and Richmond; Earls Radnor and Leicester—the latter quite a young man, and son of the celebrated Earl Leicester (Mr. Coke of Norfolk); Lord Portman, &c., &c. We only mention these titled personages to show such of our readers as were not before aware of the fact, that the most distinguished men in England take great pride and pleasure in obtaining prizes by a show of fat animals reared and fed on their own farms.

Reduction of Duties in Austria.—On the 1st of January a reduction was to be announced by the Austrian Government, on the duties upon raw cotton, sugar, and other colonial produce.

Health of Professor Berzelius.—The great Swedish chemist, Berzelius, is so dangerously ill, that his friends despair of his life.

Distilled and Fermented Liquors vs. Bread.—It is calculated that Great Britain and Ireland, annually spend about two hundred and fifty millions of dollars for distilled and fermented liquors, and only one hundred and twenty-five millions for bread! Two for the former, for one for the latter!

Composts for Wheat and Carrots.—One of the best crops of wheat I ever grew (48 bushels to the acre), was manured with 10 bushels of salt to 20 of lime to the acre, mixed 3 months, and kept dry before its application. My carrot crop this year was manured with 20 bushels of soot and 6 or 8 of salt to the acre, mixed also 3 or 4 months previously.

To Keep Birds from Fruit, &c.—The following plan, which I discovered by accident, is, I think, perfectly efficacious. One of my servants having by chance broken a looking glass, it occurred to me that the broken pieces suspended by a string, so as to turn freely in every direction, would give the appearance of something mov-

ing about, which would alarm the birds. I accordingly tried the plan, and find that no bird, not even the most fool hardy of them (a nest of newly-fledged sparrows), dare come near. They had attacked my Peas. On suspending a few bits of the looking glass amongst them, the marauders left the place. The tomtits attacked my Seckel pears (which they seem very partial to); a bit of looking glass suspended in front of the tree put a stop to the mischief. My grapes were next much damaged, before they were ripe, by thrushes and starlings; a piece of looking glass drove these away, and not a grape was touched afterwards. I have before tried many plans, but never found any so effectual as the above.—*Gard. Chron.*

Portuguese Hams.—In a late number was pointed out some of the ingredients for flavoring certain far-famed sausages. It should have been added that they are called *lombo de porco* (loin of pork), being made of the entire loins cut from the bone and rolled together, before being put into the skins; they are well soaked in a Port-wine brine. The equally famous *Lamego* (in Portugal) hams, so called, though made all over the northern provinces, are cured with sugar, which gives them that peculiar tenderness and delicacy, and the brine (made of Port wine, sugar, salt, garlic, and sweet herbs), that peculiar flavor for which they are so renowned. The *pico*, a smaller sausage, is made like the German, the meat being previously cured as above before being minced and put into the skins. Birch wood, myrtle, cistus, and other aromatic shrubs, which abound all over the country, are used for smoking them.—*Ibid.*

East India Cotton.—The Secretary of the Manchester Commercial Association has received a letter of advice from the directors of the East India Company, stating that they had given instructions for forty-five bales of cotton, grown from New Orleans, seed to be forwarded to him from Coimbatore, by the ship *Olinda*, from Cochin, for sale in Manchester. It is expected that the vessel will arrive very shortly, and that the cotton will be of a superior quality to that previously consigned to the same gentleman by the company, for sale. There have also been received two small samples of cotton grown at Coimbatore under the superintendence of Dr. Wight, from seed sown at the suggestion of the Commercial Association, at an earlier period than usual by about a month. One is a very fair sample indeed, being long in staple and of a beautiful white color; the other is very different, owing to its being injured by "damping," that is, from the damp weather preventing the pods from opening at the proper season.

To Preserve Eggs.—I knew a very experienced and attentive housekeeper, who had a long shelf with some 20 or 30 dozen holes into which she put her eggs, buying them when they were cheap, and turning them upside down every other day. By this means she kept them during the winter fit for the breakfast table as well as for the cook. There is another equally good. Place a hoop on the floor of a room, and within the circumference of the hoop place a quantity of eggs; every other day draw the hoop gently backwards and forwards, and the eggs remain fresh as above. A third way, one practised in my house, is to line the bottom of a drawer with longitudinal partitions loosely paped, and every other day pull the drawer out a few times somewhat gently, as well as just running the hand over them once a week, and the eggs remain fresh as before. A fourth way (a wholesale way) would be to pack a quantity in a small tub, and turn the tub upside down every other day. The eggs may be bought as early as August.—*Gard. Chron.*

Keeping Ice under Straw.—It is stated that ice will keep very well, closely packed on ground sloping each way, and covered three or four feet thick with straw.

Editor's Table.

TO EXCHANGE PAPERS.—We desire to call the particular attention of our exchanges to the advertisement of the *Agriculturist* on the last page, and hope they will not only give it a conspicuous insertion, but direct the notice of their readers to it, in a stirring editorial. Every farmer, and indeed most every other class of people in America, would be greatly benefited by our paper if they were to read it; and it is certain that they would do this, if they could be properly led to a knowledge of its merits. Please to give a helping hand, then, for the benefit of the bone and sinew of the great republic.

TO SOUTHERN SUBSCRIBERS.—When more convenient, subscriptions may be remitted to R. L. Allen, 75 Camp street, New Orleans, instead of to C. M. Sarton, 205 Broadway, New York. Two dollars will pay for three subscribers, or for three years' subscription in advance. Where small bills are not to be had, by remitting a five dollar gold piece, the balance of the amount will be sent back in good New York or southern bills.

TO ADVERTISERS AND CORRESPONDENTS.—As the matter of each number of the *Agriculturist* must necessarily be arranged by the 10th of the month preceding its publication, all those who wish to advertise in season, should avail themselves of the opportunity. Correspondents should forward their communications for publication by the 1st of the month.

AIMS TO ENGLISH COMPOSITION, prepared for Students of all Grades; embracing Specimens and Examples of School and College Exercises, and most of the Higher Departments of English Composition, both in Prose and Verse. By Richard G. Parker. Fifth edition. New York: Harper & Brothers, 83 Cliff st., pp. 430, 13mo. Price 90 cents. In the preparation of this work, it was the design of the author to remove two very serious obstacles which usually beset a writer in his first attempts at composition, to wit: "The difficulty of obtaining ideas, or learning to think, and that of expressing them properly when obtained." So far as we are able to judge, from a hasty perusal, we think this object has been fulfilled. The work treats of *one hundred subjects*, which are indispensable to be known, or understood, before the composition of any American scholar can be considered as finished or complete. The work, therefore, is particularly adapted for all.

CHEESE TRADE IN THE UNITED STATES.—In order to show the increase of this branch of agriculture in this country, we give the following statistics of the amount of cheese that arrived at tide water, on the Hudson, from the canal collector's books:—

Year	lbs.	Exported.
1834.....	6,340,000	
1835.....	9,586,000	
1836.....	14,060,000	
1837.....	15,560,000	
1838.....	13,810,000	
1839.....	14,530,000	
1840.....	18,820,000	723,713
1841.....	14,170,000	1,748,781
1842.....	19,004,000	2,456,677
1843.....	24,334,000	3,440,144
1844.....	26,672,500	7,433,145
1845.....	29,371,000	7,841,187
1846.....	34,812,513	8,675,390

MADEIRA NUTS RAISED IN WESTERN NEW YORK.—We were presented yesterday with some Maderia nuts, raised on the farm of Mr. Zadock Warfield, of Farmington, being rare and curious productions, for this climate. The trees from which they were taken, were planted about fourteen years ago, and are now ten feet high, with a trunk five or six inches in diameter. The nut arrives at maturity some time in October. Mr. Warfield gathered some, two years ago, that were as well filled, sweet, and palatable to the taste, as any that are imported.—*Exchange Paper.*

COMMERCE OF THE N. Y. CANALS.—Statement showing the aggregate value of the property which came to the Hudson River on all the Canals in 1846 and 1847.

	1846.	1847.
The Forest.....	\$8,559,391	\$8,796,373
Agriculture.....	33,682,818	54,694,849
Manufactures.....	4,803,799	6,024,518
Merchandise.....	276,872	517,594
Other articles.....	3,770,476	3,127,080

\$51,105,256 \$73,092,414

TONNAGE going from tide water for the last fourteen years, and also the total tons arriving at tide water, and the aggregate value thereof in market, during the same period:

Years.	Tons from tide water.	Tons to tide water.	Value.
1834.....	114,808	553,596	\$12,405,023
1835.....	126,910	753,191	20,225,446
1836.....	133,796	696,347	26,992,470
1837.....	128,130	611,781	21,222,254
1838.....	142,868	640,481	28,038,510
1839.....	142,035	602,128	20,163,199
1840.....	129,590	669,012	22,913,578
1841.....	162,715	774,384	27,225,322
1842.....	123,294	666,626	22,751,013
1843.....	142,596	836,861	28,457,408
1844.....	176,737	1,019,094	31,183,167
1845.....	196,000	1,204,943	45,432,321
1846.....	212,795	1,362,319	41,105,256
1847.....	238,267	1,744,938	73,092,414

AMOUNT AND VALUE OF WOOL.—An Albany correspondent of the *Detroit Advertiser*, gives the following statement of the amount and value of wool which arrived in Albany, by the canals from the year 1834 up to the close of the navigation in 1847:—

Year.	ARRIVED AT TIDE WATER, HUDSON RIVER.	lbs.	Value.
1834.....		984,000	\$446,737
1835.....		1,730,000	753,234
1836.....		2,510,000	1,377,523
1837.....		146,000	336,454
1838.....		3,216,000	1,400,719
1839.....		2,472,000	1,033,763
1840.....		2,590,000	1,160,480
1841.....		3,316,000	1,410,850
1842.....		2,336,000	1,006,544
1843.....		6,084,000	1,678,482
1844.....		10,182,000	3,424,015
1845.....		12,143,000	3,751,002
1846.....		10,574,000	2,529,796
1847, to Nov. 30.....		11,224,384	3,336,407

CANAL TOLLS.—Amount of tolls received on all the New York State Canals, in each of the following year, viz:—

	4th week in Nov.	Total to 1st Dec.
1840.....	\$20,190.37	\$1,773,582.61
1841.....	21,734.11	2,033,264.77
1842.....	5,380.09	15,438,664.88
1843.....	14,746.67	2,032,145.60
1844.....	13,449.02	2,416,037.94
1845.....	25,584.88	2,646,117.55
1846.....	21,707.48	2,754,467.25
1847.....	34,654.75	3,634,847.63

The increase over the season of 1846 may be stated in round numbers at \$660,000. To the gross amount Buffalo has contributed more than any other office on the line of the canal—the sum of \$1,216,700—being about one third of the whole.

TURPENTINE.—The North Carolina *Newbernian* furnishes some statistics in relation to the manufacture of turpentine in North Carolina. The number of barrels of this article annually made in the state is estimated at 800,000, not more than 200,000 of which were shipped in its crude state, the largest portion being distilled in the state. The estimated value to the maker is over \$1,700,000 annually. About 4000 or 5000 laborers are engaged in making it. There are now in operation 150 stills, valued at \$225,000. This number of stills, to have steady work, would require 600,000 barrels annually, more than is now made, an indication that the still houses are overdone.

GREAT YIELD OF CANE.—74,400 lbs. of sugar from 50 acres of cane were produced upon the plantation of J. H. Madison, in Marion county, Florida, last season.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 15, 1848.

ASHES, Pots,.....per 100 lbs.	\$5 62	to	\$5 60
Pearls,.....do.	7 00	"	7 00
BALE ROPE,.....do.	5	"	6
BAKE Querciron,.....do.	36 00	"	39 00
BEANS White,.....do.	76	"	1 25
BEESWAX, Am. Yellow,.....do.	11	"	25
BOLT ROPE,.....do.	45	"	194
BONES, ground,.....do.	45	"	55
BRISTLES, American,.....do.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	13	"	14
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	6	"	10
COAL, Anthracite,.....3000 lbs.	5 00	"	6 00
CORDAGE, American,.....do.	11	"	13
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,.....yard,	15	"	16
FEATHERS,.....do.	30	"	40
FLAX, American,.....do.	71	"	9
FLOUR, Northern and Western,.....bbl.	6 08	"	6 50
Fancy,.....do.	6 50	"	7 00
Southern,.....do.	6 09	"	6 25
Richmond City Mills,.....do.	7 44	"	7 50
Buckwheat,.....do.	—	"	—
Rye,.....do.	4 25	"	4 50
GRAIN—Wheat, Western,.....bush.	1 20	"	1 40
Southern,.....do.	1 15	"	1 20
Rye,.....do.	82	"	88
Corn, Northern,.....do.	75	"	80
Southern,.....do.	70	"	76
Barley,.....do.	78	"	85
Oats, Northern,.....do.	48	"	51
Southern,.....do.	44	"	46
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	65	"	70
HEMP, Russia, clean,.....ton.	225 00	"	235 00
American, water-rotted,.....do.	100 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....do.	5	"	8
HORNS,.....do.	100	"	10 00
LEAD, pig,.....do.	4 25	"	4 50
Sheet and bar,.....do.	44	"	54
MEAL, Corn,.....bbl.	3 00	"	3 75
Corn,.....hhd.	16 50	"	17 00
MOLASSES, New Orleans,.....gal.	28	"	30
MUSTARD, American,.....do.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	81	"	1 00
Rosin,.....do.	60	"	75
Turpentine,.....do.	3 25	"	2 50
Spirits Turpentine, Southern,.....gal.	37	"	40
OIL, Linseed, American,.....do.	58	"	60
Castor,.....do.	1 20	"	1 25
Lard,.....do.	80	"	85
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 00	"	1 25
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	8 25	"	12 00
Prime,.....do.	5 25	"	7 50
Smoked,.....do.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	10 00	"	10 00
Prime,.....do.	6 50	"	7
Lard,.....do.	7	"	9
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	13
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	9
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack.	1 40	"	1 50
Common,.....bush.	28	"	35
SEEDS—Clover,.....lb.	5	"	8
Timothy,.....bush.	1 75	"	3 50
Flax, clean,.....do.	1 40	"	1 45
rough,.....do.	1 30	"	1 35
SODA, Ash, con'tg 50 per cent. soda,....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	7
SUGAR, New Orleans,.....do.	4	"	—
SURAC, American,.....ton.	35 00	"	37 00
TALLOW,.....do.	8	"	9
TORACCO,.....do.	24	"	26
WHISKY, American,.....gal.	25	"	26
WOOLS, Saxony,.....lb.	25	"	30
Merino,.....do.	30	"	35
Half blood,.....do.	28	"	32
Common do,.....do.	18	"	20

REMARKS.—Cotton is a trifle higher than at our last, while Flour, Grain, and Pork, are somewhat lower. We are of opinion that if there be any change this winter, it can scarcely be to higher prices, and we recommend the farmer's to sell now, as fast as may be convenient.

Money is a little easier, but still difficult to be obtained except on the best of paper.

The Weather here has come round quite mild again, after a short cold spell.

To CORRESPONDENTS.—Communications have been received from G. P. Lewis, W. D. Calvin Coulter, Jr., E. S. Henry A. Field, S. A., Reviewer, R. L. Allen, H. M. W.—, and J. L. Hardeman.

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February, 1848.

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Flushing, L. I., January 1, 1847.

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CAMPAIGN SKETCHES OF THE WAR WITH MEXICO. By Capt. W. S. Henry, U. S. Army. With Engravings. 12mo, Muslin, \$1; Paper, 75 cents.

Of this book we are happy to speak with the highest praise. Apart from its authenticity, which is unquestionable, it is modestly executed, graphic, and picturesque; and although the author, in his manly and high-toned preface, "disavows any claim to literary merit," we can assure him that others will allow to him the palm which he is too modest to grasp at, for he, indeed, possesses great claims to it. His style is clear, concise, and lucid; his language perfectly correct; and his narrative rapid and well connected. The campaign sketches are evidently the work of a gentleman, a scholar, and a soldier.—*Literary World.*

HISTORY OF THE CONQUEST OF MEXICO. With the Life of the Conqueror, Hernando Cortez, and a View of the Ancient Mexican Civilization. By William H. Prescott, Author of "History of the Conquest of Peru," "History of Ferdinand and Isabella," "Biographical and Critical Miscellanies." Portrait and Maps. 3 vols. 8vo, Sheep extra, \$6.75; Muslin, \$6.

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It has seldom fallen to our lot to read so interesting and touching a narrative of travel as abounds in these volumes; we were not prepared to find in them reading so very attractive, nor could we form any idea that such a narrative of toils and sufferings as are here detailed by the sufferer himself, would probably present so many points of instruction to the general reader.—*Methodist Quarterly Review.*

THE RAMBLER IN MEXICO. By Charles J. Latrobe, Author of "The Rambler in North America." 12mo, Muslin, 65 cents; Paper, 35 cents.

A work of deep interest and value.—*Eclectic Review.*
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IS PUBLISHED MONTHLY BY

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February 1st, 1848.

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Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, MARCH, 1848.

NO. III.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

CULTIVATION OF MELONS.

THESE are many varieties of the melon (*Cucumis melo*), of which the best may be considered as "Skillman's Netted," the "Green-fleshed Citron," the "Green-fleshed Nutmeg," the "Large Yellow Cantaloup," the "Green-fleshed Persian," the "Musk-scented," and the "Pineapple." Of these, the first three are generally cultivated throughout the United States, and abound in our markets for at least three months in the year. It is already known to many of our readers that this city is greatly indebted for this luxury to several families by the name of Bergen, who annually cultivate some hundred acres, near Gowanus, Long Island, and at Shrewsbury, New Jersey. Although not a sure crop, we have been informed that an acre of their land, well tilled, will yield from \$100 to \$400 worth of melons in a season.

The soil best suited for the melon, in open culture, is a light, sandy loam, similar to that of the southerly end of Long Island and the adjacent shores of New Jersey. The ground should be plowed or spaded, from 12 to 18 inches deep, and well pulverized with a harrow or rake. The proper season for sowing is at the time the peach tree is in bloom; for, if planted earlier, there would be fear of their being cut off by frosts. The seeds may be sown in broad hills, 18 inches in diameter, and 5 feet apart from centre to centre, each supplied with a shovelful of well-rotted stable, or barn-yard manure. In order to guard against accidents, at least 20 seeds should be scattered in a hill, which should be covered with finely-pulverized earth at about the same depth as in planting Indian corn.

Soon after the plants are up, and begin to show their second leaves, they may be weeded with a hoe, and a portion of them thinned out, still leaving enough to guard against accidents or the depredation of worms. In the course of the

summer, before the vines begin to spread, two furrows should be run between the rows, with a cultivator or plow, turning the earth directly from the plants, which should again be freed of weeds, and reduced in number to five or six in each hill. A few weeks later, a second plowing should take place, turning the earth towards the vines, when a broad, flat hill should be formed, slightly hollowing in the middle, so as to receive and retain the water supplied by irrigation or from the fall of rains. After this, no further attention will be required, except in keeping down the weeds, and in guarding against worms.

NOTES ON LONG ISLAND.—No. 2.

WE shall not soon forget the sultry day we made an excursion from Oyster Bay to Glen Cove. Accompanied by Mr. D. K. Youngs, and Mr. Wm. S. McCoun, each of whom contributed a fast-trotting nag, to make up the carriage pair, we drove along the fine gravel roads of this part of the island, at a pace fast enough to gratify the most impatient of locomotives. What most interested us in this day's excursion, was a visit at Dosoris, the residence of the late General Nathaniel Coles, the breeder of American Eclipse. The stall where this famous race horse first saw the light, is one of a row in quite an ordinary stable, on West Island, which is a part of the farm. It is a pretty spot, indeed; washed by the sound, shaded by scattering trees, and abounding with excellent pasturage. The soil is a compact, gravelly loam. It is just the place for a wild colt to play his pranks; and after witnessing these for a season, General Coles made up his mind that he had at last got a trump, and hence his name, after one of the most famous horses that England ever produced.

Eclipse was by Duroc, out of Miller's Damsel, and was foaled, May 25th, 1814. No horse in

America ever attained anything like his fame, and perhaps never will. This was owing in a measure to the great sectional race between the north and the south, which he ran with Sir Henry, over the Union Course, on Long Island, on Tuesday, the 27th of May, 1823, Eclipse beating him in the two last heats, and thus winning very easily. It was supposed that upwards of sixty thousand persons were present on this occasion. The race was a subject of great interest throughout the United States for some time before and after the event. Certain sections were as much, or perhaps more excited by it, than they would have been by a presidential contest. In fact, immediately after it was over, the late eccentric John Randolph, of Roanoke, remarked, that he was very glad the next president was not to be chosen by the people on that day, for if he were, Mr. Purdy, the fortunate rider of Eclipse, would certainly have been the man.

After this match, Eclipse was put into the breeding stud, where he proved as good a stock getter as he had been a racer. He stood in this vicinity several years, and was then purchased by Col. Johnson, and taken to Virginia, Tennessee, and Kentucky. He died of an apopleptic fit, on the farm of Mr. Jilson Yates, near Shelbyville, Kentucky, on the 11th of July, 1847, in his thirty-fourth year. He was a clean-limbed, powerful-built horse, of great speed and endurance. He had a plain head and neck, but was unmatched in the exquisite beauty and fine proportions of all his other points. He stood fifteen and a half hands high, and was of a light chestnut, or sorrel color. Up to within a few days of his death he was as spirited and lively as a colt, and did not appear to be over ten years old.

The following quaint eulogy of Eclipse, appeared soon after his death, in the "Pine Knot," a paper published at Napoleon, Mississippi:—

Farewell, old horse! thy race is run;
The final goal at length is won.
This to thy praise at least be said—
Thou never wast, as some are, led;
No servile follower for bread;
Thou wast a leader "from the start,"
And well hast acted here thy part;
Well may thy friends, and truly, boast,
First wast thou ever at thy "post;"
Sure of "the right"—then like a rocket,
You shot "ahead"—like Davy Cricket.
Our eyes with mourning tears run o'er,
Alas! that thou canst run no more!
We loved thee living, mourn thee dead!
"Green be the turf above thy head!"

For a highly interesting and particular account of the great race between Eclipse and Sir Henry, see page 76, of this number of the *Agriculturist*.

WASH FOR FRUIT TREES.—Take equal parts, by measure, of ground plaster of Paris, soft soap, and green cow dung; dilute them with water to the consistency of common white wash; and apply the mixture to the trunks and large branches of the trees with a mop or brush. This will not only have a tendency to destroy or ward off insect, but render the trees more healthy and fruitful.

SALTING MANURE.—Mixing salt with stable and other manures has a great tendency to prevent the development of grubs and vermin, which are frequently bred in dung when carried unsalted to the fields.

AGRICULTURE OF THE CHINESE.—No. 3.

Terrace Cultivation.—The terrace cultivation of China has been noticed by nearly all writers upon that country, and, like most other subjects, it has been either much exaggerated or undervalued. It appeared to me to be carried to the greatest perfection on the hill sides adjacent to the river Min near Foo-chow-foo; at least I was more struck with it there than anywhere else. On sailing up that beautiful river, these terraces look like steps on the sides of the mountains, one rising above another, until they sometimes reach six or eight hundred feet above the level of the sea. When the rice and other crops are young, these terraces are clothed in luxuriant green, and look like a collection of gardens among the rugged and barren mountains. The terrace system is adopted by the Chinese, either for the purpose of supplying the hill sides with water where paddy is to be grown, or to prevent the heavy rains from washing down the loose soil from the roots of their vegetables. Hence these cuttings are seen all over the sides of the hills, not exactly level like the rice terraces, but level enough to answer the purpose of checking the rains in their descent down the mountain. For the same reason, the sweet potato and some other crops, which are grown on the hills, are always planted in ridges which run crosswise or horizontally; indeed, were the ridges made in a different direction, the heavy rains which fall in the early summer months would carry both the loose soil and crops down into the plains.

Rice is grown on the lower terrace ground, and a stream of water is always led from some ravine and made to flow across the sides of the hills, until it reaches the highest terrace, into which it flows and floods the whole of the level space. When the water rises three or four inches in height, which is sufficiently high for the rice, it finds vent at an opening made for the purpose in the bank, through which it flows into the terrace below, which it floods in the same manner, and so on to the lowest. In this way the whole of the rice terraces are kept continually flooded, until the stalks of the crops assume a yellow ripening hue, when the water being no longer required, it is turned back into its natural channel, or led to a different part of the hill, for the nourishment of other crops. These mountain streams, which abound in all parts of the hilly districts, are of the greatest importance to the farmer; and as they generally spring from a high elevation in the ravines, they can be conducted at pleasure over all the lower parts of the hills. No operation in agriculture gives him and his laborers more pleasure than leading these streams of water from one place to another and making them subservient to their purposes. In my travels in the country the inhabitants often called my attention to this branch of their operations, and I pleased them much when I expressed my admiration at the skill with which they executed it. The practice is not confined to the paddy fields; for I remember once, when superintending the planting of some large trees and shrubs in the garden of Messrs. Dent & Co., in Hong-kong, after I had given them a large supply of water at the time they were put into the ground, I desired the gardener to repeat the dose next morning. But, on the following day, when I returned

to the spot I was surprised to find a little stream divided into many branches, and meandering amongst the roots of the newly-planted trees. As there was no stream there before, I went up to examine its source, and found that it had been led from a neighboring ravine; a work more easy than carrying a large supply of water in buckets, and at the same time more effectual.

APPLE ORCHARDS.—No. 7.

Attack from Borers.—The apple tree, as well as the quince, mountain ash, June berry, and various species of thorns and aronias, are attacked by the larvæ of the two-striped saperda (*Superda bivittata*, Say), denoted by the adjoining figure. The upper

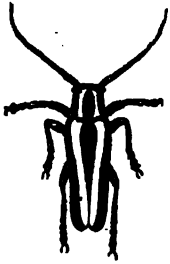


FIG. 16.

side of the body of the perfect insect is marked with two longitudinal white stripes between three others of a light-brown color, while the face, the antennæ, the under side of the body, and the legs, are white. This beetle varies in length from a little more than one half to three fourths of an inch. It comes forth from the trunks of the trees early in June, making its escape in the night, during which time only it uses its ample wings in passing from one tree to another in search of companions and for food. In the daytime, it keeps at rest among the leaves of the plants on which it feeds. In the months of June and July, the females deposit their eggs upon the bark of the trees, near the roots, and the larvæ, or borers, hatched from them, consist of fleshy whitish grubs, without legs, nearly cylindrical in their form, and tapering a little from the first ring to the end of the body. The head is small, horny, and of a brownish color. The first ring is much larger than the others, the next two very short, and, like the first, are covered with punctures and very minute hairs. This grub, with its strong jaws, cuts a cylindrical passage through the bark, and pushes its castings backwards out of the hole, while it bores upwards into the wood. It continues in the larva state two or three years, during which it penetrates eight or ten inches into the trunk of the tree, its burrow at the end approaching to, and being covered only by, the bark. It is in this situation that its transformation takes place, which is completed about the first of June, when the beetle gnaws through the bark that covers the end of the burrow, and comes out of its place of confinement in the night. One of the oldest, safest, and most successful modes of destroying this borer is, to thrust a wire into the hole it has made; or, what would probably answer as well, to plug it up with soft wood.

Attacks from Coccida, or Bark Lice.—Young apple trees, and the extremities of the limbs of older trees, are very much subject to the attacks of a small species of bark louse (*Coccus* * * * * ?). The limbs and smooth parts of the trunks are sometimes completely covered with these insects. They measure about one tenth of an inch in length, are of an oblong-oval shape, gradually decreasing to a point at one end, and are of a brownish color, very near to that of the bark of the tree. There is also an-

other species of coccus, which inhabits the apple tree, differing from the one above mentioned in several important particulars. It is one of the kind in which the body of the female is not large enough to cover her eggs, for the protection whereof provision is made, consisting, in this species, of a kind of membranous shell, of the color and consistence almost of paper. In autumn, and during winter, these insects are seen in a torpid state, and of two different forms and sizes, on the bark of the trees. The larger ones measure less than a tenth of an inch in length, and are in the shape of a common oyster shell, being broad at the hinder extremity, but tapering towards the other, which is surmounted by a little oval, brownish scale. The small ones, which are not much more than half the length of the others, are of an oblong-oval shape, or almost four-sided, with the ends rounded, and one extremity is covered by a dark-colored, minute, oval scale.

On examining the trees early in the spring, the females may be found, in a lifeless state, fastened close to the bark, having been fixed in this position ever since the year before. A little later in the season, their bodies become more distended, and on carefully removing them, numerous eggs will be found beneath them. At this period, the internal parts of their bodies appear to be dried up and dead, their outer skins only remaining, which serve as shields for protecting their future progeny. On the approach of the heats of summer, the larvæ are hatched, and escape at the lower extremities of the shields, which are slightly elevated or notched at these parts. In this stage of their existence, they usually have the appearance of small, oval, roundish, or oblong scales, of a brownish color, and much in the shape of their parent shields, but thinner, more flattened, and of a paler color. At first, they are full of activity, disperse themselves over the young shoots and leaves, puncture the tender parts, exhaust the sap by suction, and increase in size, till they prepare for change. In the early period of their growth, their heads are completely concealed beneath the shells of their bodies; their beaks or suckers appear to proceed from their breasts; and their legs, which are six in number, are so short that they are not visible from above. When they have completed the larva state, they prepare for transformation by emitting from the under sides of their bodies, numerous little downy threads, by which they securely confine themselves to the bark. After becoming thus fixed, they remain, for a time, in a torpid state, and under these inanimate scales, the transformations of both sexes take place. The outer coverings of the males serve as cocoons, from which they appear to shrink and become detached. In the course of time, they push themselves out of their shells, at the little fissures at their extremities, and appear in their perfect form, having two wings, which lie flatly upon their bodies, but no beaks, as they had previous to their transformation. In a few days after the females fasten themselves to the bark, they contrive to burst, and throw off, in flakes, their outer coats, and betake similar forms as those which they before assumed, and enter into the pupa or chrysalis state. When mature, they retain their beaks or suckers, and are wingless, but are destined never to change their places after they have once become fixed. In this condition, their bodies are

greatly enlarged, and in some species, approach more or less to a spherical form. It is in this condition that they receive the embraces of the males, after which, they continue to increase in size for a time, eject their eggs, and gradually shrink away, leaving nothing but their dry, outer skins, and perish on the spot. After the eggs mature, they imperceptibly pass under the body of their mother, where they remain, until they undergo the changes before described. *

RACE BETWEEN ECLIPSE AND SIR HENRY.

THE following is the best account which we have met with of the great sectional race, between the north and the south, run by Eclipse and Sir Henry, on the Union Course, Long Island, New York, in May, 1823, and alluded to on page 74, of this number of our journal. It was written by the late Cadwallader R. Colden, and appeared in the American Turf Register, for September, 1830. Presuming that many of our readers will be gratified by its perusal, we take this opportunity of transferring it to our columns.

First Heat.—At length the hour appointed arrived; the word was given to saddle, and immediately afterwards to mount. Eclipse was rode by William Crafts, dressed in a crimson jacket and cap, and Sir Henry by a Virginia boy, of the name of John Walden, dressed in a sky-blue jacket with cap of the same color. The custom on the Union Course, is to run to the left about, or with the left hand next to the poles. Eclipse, by lot, had the left or inside station at the start. Sir Henry took his ground about twenty-five feet wide of him, to the right, with the evident intention of making a run in a straight line for the lead. The preconceived signal was a single tap of the drum. All was now breathless anxiety; the horses came up evenly; the eventful signal was heard; they went off handsomely together. Henry apparently quickest, made play from the score, obtained the lead, and then took to a hard pull. By the time they had gone the first quarter of a mile, which brought them round the first turn, to the commencement of what is termed the back side of the course, which is a straight run, comprising the second quarter of a mile, he was full three lengths ahead; this distance he maintained, with little variation running steadily, with a hard pull, during the first, second, third, and for about three fourths of the fourth round, or mile, the pace, all this time, a killing one. It may be proper to note that the course is nearly an oval, of one mile, with this small variation, that the back and front are straight lines of about a quarter of a mile each. When the horses were going the last round, being myself well mounted, I took my station at the commencement of the stretch, or last quarter, where I expected a violent exertion would be made at this last straight run in, when they left the straight part on the back of the course, and entered upon the last turn. Henry was, as heretofore, not less than three lengths in the clear, ahead. They had not proceeded more than twenty rods upon the first part of the sweep, when Eclipse made play; when they were at the extreme point or centre of the sweep, I observed the right hand of Crafts disengaged from his bridle, making

free use of his whip; when they had swept about three fourths of the way round the turn, and had advanced within twenty-five rods of my station, I clearly saw that Crafts was making every exertion with both spur and whip to get Eclipse forward. At this moment, Eclipse threw his tail into the air, and flirited it up and down, after the manner of a tired horse, or one in distress and great pain; and John Buckley, the jockey (and present trainer), who I kept stationed by my side, observed, "Eclipse is done." When they passed me about the commencement of the stretch, seventy or eighty rods from home, the space between them was about sixteen feet, or a full length and a half in the clear. Here the rider of Henry turned his head round and took a view for an instant of his adversary. Walden used neither whip nor spur, but maintained a hard and steady pull, under which his horse appeared accustomed to run. Crafts continued to make free use of the whip; his right hand in so doing was necessarily disengaged from the bridle, his arm often raised high in air, his body thrown abroad, and his seat loose and unsteady; not having strength to hold and gather his horse with one hand, and at the same time keep his proper position. In order to acquire a greater purchase, he had thrown his body quite back to the cantle of the saddle, stuck his feet forward by way of bracing himself with the aid of the stirrups, and in this style, he was belaboring his horse, going in the last quarter. Buckley exclaimed (and well he might), "only look at Billy" [meaning Crafts, the rider of Eclipse, for the first heat]. From this place to the winning post, Eclipse gained but a few feet, Henry coming in ahead about a length in the clear. The shortest time of this heat, as returned by the judges on the stand, was 7 minutes 37½ seconds.

I pushed immediately up to the winning post, in order to view the situation of the respective horses, after this very trying and severe heat; for it was in fact running the whole four miles. Sir Henry was less distressed than I expected to find him. Eclipse also bore it well, but of the two, he appeared the most jaded; the injudicious manner in which he had been rode, had certainly annoyed and unnecessarily distressed him.

The incapacity of Crafts to manage Eclipse (who required much urging, and at the same time to be pulled hard), was apparent to all—he being a slender-made lad, in body weight about 100 lbs., only. A person interested in the event, seeing Buckley, who had rode the horse on a former occasion, with me, requested that I would keep him within call, and ready to ride in case of emergency. It was, however, soon settled, and announced that Mr. Purdy would ride him the second heat, upon which long faces grew shorter, and northern hopes revived. Six to four was, nevertheless, offered on the southern horse, but no takers.

Second Heat.—The horses, after a lapse of 30 minutes, were called up for a second heat. I attentively viewed Eclipse while saddling, and was surprised to find that to appearance he had not only entirely recovered, but seemed full of mettle, lashing and reaching out with his hind feet, anxious and impatient to renew the contest. Mr. Purdy having mounted his favorite, was perfectly at home, and self-confident. The signal being again given,

* See Harris' Report pp. 98, 301 et 302.

he went off rapidly from the start. Sir Henry being now entitled to the inside, took the track, and kept the lead, followed closely by Eclipse, whom Mr. Purdy at once brought to his work, knowing that game and stoutness was his play, and his only chance of success, that of driving his adversary up to the top of his rate, without giving him the least respite. Henry went steadily on, nearly at the top of his speed, keeping a gap open between himself and Eclipse of about 20 feet, without much variation, for about two miles and seven eights, or until towards the conclusion of the third mile, they had arrived nearly opposite the four-mile-distance post. Here Purdy made his run, and when they had advanced forty rods further, which brought them to the end of the third mile, was close up, say nose and tail. They now entered upon the fourth and last mile, which commences with a turn or sweep, the moment you leave the starting post. Here the crowd was immense. I was at this moment on horseback, stationed down the stretch or straight run, a short distance below the winning post, in company with a friend and Buckley, the jockey, who kept close to me during the whole race. We pushed out into the centre, or open space of the ground, in order to obtain a more distinct view of the struggle, which we saw making for the lead; everything depended upon the effort of Purdy; well he knew it; his case was a desperate one, and required a desperate attempt; it was to risk all for all; he did not hesitate. When the horses had got about one third of the way round the sweep, they had so far cleared the crowd as to afford us a distinct view of them before they reached the centre of the turn. Eclipse lapped Henry about a head and girth, and appeared evidently in the act of passing. Here Buckley vociferated, "See Eclipse! Look at Purdy! By heaven, on the inside!" I was all attention. Purdy was on the left hand or inside of Henry. I felt alarmed for the consequence, satisfied that he had thus hazarded all. I feared that Walden would take advantage of his position, and by reining in, force him against or inside one of the poles. When they had proceeded a little more than half way round the sweep, the horses were a dead lap; when about three fourths round, Eclipse's quarter covered Henry's head and neck, and just as they had finished the bend, and were entering upon the straight run, which extends along the back part of the course, Eclipse, for the first time, was fairly clear, and ahead! He now with the help of the persuaders, which were freely bestowed, kept up his run, and continued gradually, though slowly, to gain during the remaining three quarters of a mile, and came in about two lengths ahead. As they passed up the stretch, or last quarter of a mile, the shouting, clapping of hands, waving of handkerchiefs, long and loud applause sent forth by the Eclipse party, exceeded all description; it seemed to roll along the track as the horses advanced, resembling the loud and reiterated shout of contending armies. Time, this second heat, 7m. 49s.

Third Heat.—It was now given out, that in place of the boy Walden, who had rode Sir Henry the two preceding heats, that Arthur Taylor, a trainer of great experience, and long a rider, equalled by few, and surpassed by none, would ride him this last and decisive heat. At the expiration of 30 minutes

the horses were once more summoned to the starting post, with Purdy and Taylor mounted; the word being given, they went off at a quick rate. Purdy now taking the lead, and pushing Eclipse from the score; evidently resolved to give Sir Henry no respite, but to cause him, if determined to trail, to employ all his speed and strength, without keeping anything in reserve for the run in. Sir Henry continued to trail, apparently under a pull, never attempting to come up until they had both fairly entered the straight run towards the termination of the last mile, and had advanced within sixty rods of home. Here Sir Henry being about five yards behind, made a dash, and ran up to Eclipse, so far as to cover his quarter or haunch with his head, and for a moment had the appearance of going past; he made a severe struggle for about two hundred yards, when he again fell in the rear, and gave up the contest.

Thus terminated the most interesting race ever run in the United States. Besides the original stakes of \$20,000 each, it was judged that upwards of \$200,000, changed hands.

In this last heat, Sir Henry carried 110 lbs, being two pounds over his proper weight; it not being possible to bring Arthur Taylor to ride less, and although a small horse, and wanting twenty days of being four years old, he made the greatest run ever witnessed in America. Time, this heat, 8m. 24s.

Thus the three heats, or twelve miles, were run in 23 minutes, 50½ seconds, or an average of 7 minutes 57 seconds each heat; or 1 minute, 59 seconds per mile.

OLD OPINIONS OFTEN CORRECT.

An opinion very long since prevailed that the beneficial effect of snow on vegetation was produced by the nitre (saltpetre) contained in it, and that the same salt existed in hoar frost. Thompson undoubtedly entertained this idea, when he wrote his "Winter," in which he alludes to the fertilizing influences of snow.

Chemists, however, some years since, exploded this notion; but the nicer analyses of modern investigators have detected alike in snow and in rain water, the nitrogen which was dissolved in the atmosphere, showing that "there is nothing new under the sun," and that our forefathers were not so ignorant as we idly think them. The most profound researches of chemists, also, now prove that the old practice of fallowing was based on the soundest chemical principles; and that, in the days when cattle were principally maintained on common pastures, and manures consequently rare, nothing could be better for the soil than frequent fallows.

How to RENDER NIGHT SOIL INODOROUS.—By mixing this substance with burnt mud or peat, and finely-pounded charcoal, its odor will be instantaneously removed, while they will retain the ammonia, by means of the power they have of absorbing that substance. The quantity of charcoal or burnt mud necessary to be used, will depend on circumstances, and can only be determined by actual experiment. As a general rule, one part, by measure of the charcoal or peat, to five parts of the night soil, will be sufficient to remove the smell and form a rich manure.

CULTIVATION OF CELERY.

The kinds of celery (*Apium graveolens dulce*), preferable for general culture, are those known by gardeners under the names of "Common Upright Italian," "Large Hollow Upright," and the "Solid-stalked Upright," all of which may be raised from seeds, sown in the middle and northern states, with slight forcing, from March until the first or second week in May. One ounce of seed is sufficient for 10,000 plants, and may be sown in drills 6 inches apart, in hot beds, or rich, mellow borders, after the manner of cabbages, watering moderately in dry weather both before and after it is up. As soon as the plants are 2 or 3 inches high, they may be transplanted 3 or 4 inches apart, in a sunny situation, into temporary beds, formed of old hot-bed dung, or well-rotted stable manure, mixed with one fourth of its bulk of finely-pulverized earth. These beds should be laid 6 or 7 inches thick on a plot of ground having a surface made hard by compression, or one that has not been broken by the spade or the plow, in order to prevent the pushing of tap roots, and thereby prevent the celery from running to seed, before the following spring. The nurseries plants should be watered daily until they have taken firm root, and as often afterwards as the dryness of the weather may require.

When the plants have acquired a height of 6 or 8 inches, they may be removed, in monthly succession from June until September, into a soil rather moist, and rich in vegetable mould, but not rank from new or unrotted dung. Previous to the last transplanting, the ground should be thoroughly worked with the spade or plow, to a depth of 12 to 18 inches, according to the nature of the soil, and then divided into trenches 12 inches deep, 18 inches wide, and 4 feet apart from centre to centre. The trenches should next be filled, 9 inches deep, with a compost of well-rotted dung, mixed with one fourth of its bulk of strong sandy loam. The plants should be taken up from the nursery beds, with as much soil as will conveniently adhere to their roots, and after removing the side shoots from the stems, they may be set, by hand, 9 or 10 inches apart in the centre of each trench, watering them as often as the weather may require, until they are ready to be earthed up.

As the plants in the trenches rise from 10 to 15 inches high, you may commence "landing," or "earthing," them up for blanching; but never do this while they are wet. In the first two mouldings, the earth should be sparingly raised to the stems, forming a slight ridge on each side of the rows, and leaving a hollow to receive the full benefit of the waterings or rain. When the plants become strong enough to bear a mould 6 inches in height, the earth may be drawn up equally on each side, preventing it as much as possible from falling into the hearts of the plants by keeping closely together the outer leaves. This may be done by tying together long bands of bass matting, fastening one end to the outer plant in the row, then passing it to the next plant, giving it a turn round the leaves and so on until the row is complete. When the moulding is finished, the string may be unravelled and used for the next row. The operation of earthing up should be repeated once or twice a fortnight, until the plants are ready for use, gradually

diminishing the breadth of the top of the ridge, until it is drawn at last to a point near the tips of the plants.

The celery intended to be preserved during winter should be unearthed and cut off close to the roots. A ridge of earth should next be formed of a height corresponding to the length of the heads, which should be placed parallel to each other up and down the sides of the ridge. More earth may then be banked against these heads, and the operation alternately repeated until you dispose of the whole crop. If the celery thus preserved be liable to suffer from frost, the surface of the deposit should be covered with a layer of litter or straw from 3 to 9 inches thick, which may be removed as fast as the heads are dug up for use.

A large portion of the celery, sold in the New York market, is produced at Harsimus, near Jersey city. The past season, Mr. Benjamin Mills, of that place, raised 60,000 heads, which at 6 cents each, would be worth \$3,600. Messrs. John and Francis Brill, raised each, 40,000 heads. The mode of culture practised by these gentlemen, we are informed, differs but slightly from the one above described. Their ground consists of a rich loam, resting upon a subsoil of clay. It is well worked with the plow to a depth of 12 to 14 inches, and is liberally supplied with well-rotted stable manure. The early celery is planted in trenches 6 inches deep, half filled with manure; and that of later growth is set in drills filled level to the surface with the same kind of manure.

DIRECTIONS FOR SACKING WOOL.

WOOL, intended to be sent to a distant market, may be put up and pressed in bales after the manner of cotton, or it may be crowded into sacks holding from 200 to 250 lbs. If designed to be shipped on a long voyage, it would be more economical to press it into square bales, as it would then occupy less bulk, and consequently effect a saving of freight. But in the interior of a country, where conveniences for baling are not always at hand, sacks may be employed, made of 40-inch "burlaps," or 45-inch "gunny cloth," 7½ feet long. Each of these sacks may be made of a piece of cloth 5 yards in length, by doubling the ends until they meet and sewing up the sides with twine.

The mouth of a sack may next be sewed to a strong hoop of wood or iron (diameter 25 inches for the burlaps and 28 inches for the gunny cloth); then let down its body through a circular hole, two inches less in diameter than the hoop, cut in an upper floor of a building, or of a temporary scaffold erected for the purpose, where it can swing clear beneath. One man may then get into the sack, while another hands him the fleeces, which he should place in regular layers, pressing them down in the meantime, with his feet, until it is filled. After this, the sack may be slightly raised, the hoop disengaged, the mouth of the sack sewed up with twine, and the operation is complete.

KEEPING WORTHLESS DOGS.—It is universally admitted, that what will keep a dog would keep a pig. It need not be said then, which would be found the most profitable to a poor man's family, at Christmas, a dog for his children to play with, or ham and good bacon to fill their stomachs.

CHOICE VARIETIES OF APPLES.

ESOPUS SPITZENBURG.—There are but few, very few apples, to which higher rank is awarded, than to this variety, possessing, as it does, the rare advantage of beauty and excellence of quality combined. It is said to have originated at Esopus, a famous apple district, on the Hudson, where it is still raised in the highest perfection. It is also extensively cultivated in Western New York, where, from the richness of the soil, it attains great beauty and size, without loss of flavor or being inferior in any other way.

The size is full medium, with an oblong outline, and a skin fair and smooth, of a fine clear red. Some specimens are of brilliant hue on the sunny side, while the opposite side is of a yellowish cast. The flesh is yellow, and in the language of Cox, "singularly rich, juicy, and sprightly." The stem is of medium length, and well planted. And the calyx is in a shallow depression. It abounds in the New York markets for nearly six months in the year.

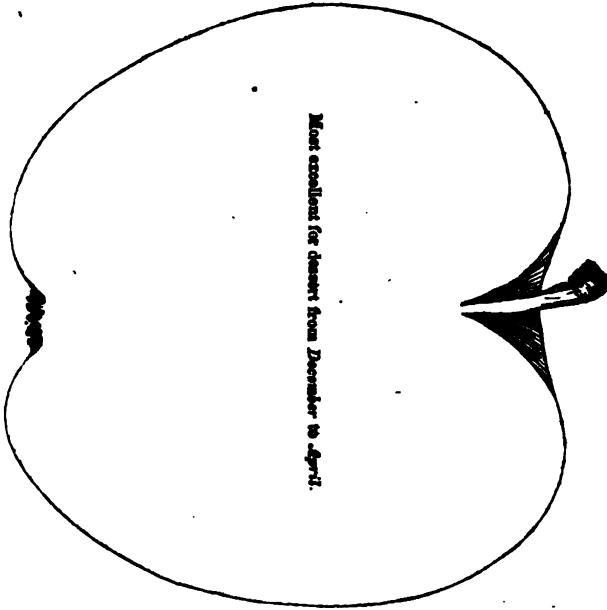
KAIGHN'S SPITZENBURG.—This variety takes its name from the original cultivator, the late Joseph Kaighn, of Kaighn's Point, New Jersey. It somewhat resembles the Esopus Spitzenburg, although its outline is more like that of the "Summer Queen." The color is bright red, delicately streaked, and marked with whitish or yellowish dots, by which it may readily be known. The skin is smooth; the flesh juicy and well flavored; the stem deeply seated and rather long; and the blossom end is frequently more pointed than the specimen denoted by fig. 18.

PREPARED GUANO.

We can assure the farmers that all substances offered them under the above name, at a cheaper rate than the natural guano, are *gross humbugs*; and we think it our duty to warn them against their purchase. In our last volume, page 301, we gave instructions for making a first-rate article of "prepared guano," at a cost of not over half a cent to three fourths of a cent per pound! The ingredients are simply these: Take 100 lbs. of Peruvian guano, and mix with 100 lbs. of fine charcoal dust, or plaster of Paris, and 300 lbs. of rich mould, or peat. These materials will make 500 lbs. of as good *prepared guano* as can be found in any puffer or humbugger's shop in the Union, at double their cost.

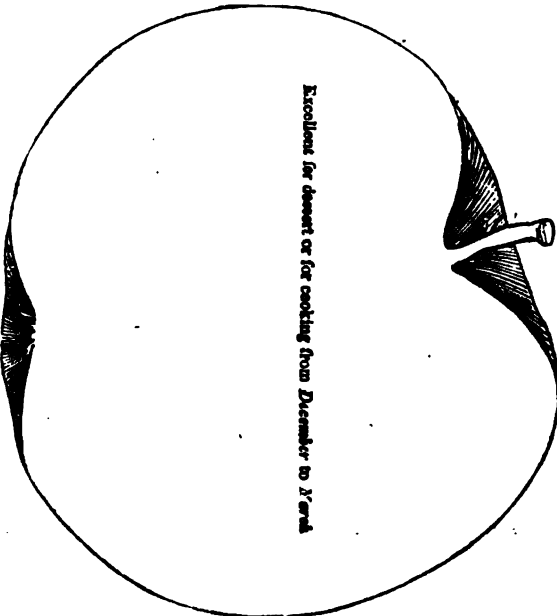
We are very much surprised that so highly respectable bodies as the New York State Agricultural Society, and the American Institute, should recommend such things before submitting them to the most careful chemical tests, and various, long-tried experiments by the side of the natural guanos. Peruvian guano has been in use for years, on all kinds of soils, growing nearly every variety of crop, in almost every climate. Its good qualities therefore are well known and approved of, by thousands of practical farmers, planters, and gardeners. Can so much be said of any prepared guano? These compounds have often been condemned in Europe as gross frauds, the *knaves* selling them having frequently been prosecuted and heavily fined.

ESOPUS SPITZENBURG.—FIG. 17.



Most excellent for dessert from December to April.

KAIGHN'S SPITZENBURG.—FIG. 18



Excellent for dessert or for cooking from December to March

LETTERS OF R. L. ALLEN.—No. 2.

I HAVE found many things in the south worthy of commendation, some of which I have noticed in the preceding volumes of the *Agriculturist*. There are a few deserving of censure, one or two of which I will now state, not for the idle purpose of fault-finding, but if possible, to produce a reform. Reasonable men, desirous of improvements, as I believe your readers in this section are, will not fail to approve of just and proper criticism rather than indiscriminate praise.

The first reform I would suggest, is the wider circulation and more careful perusal of the best agricultural periodicals, and a deeper investigation of those agricultural principles, which lie at the foundation of successful farming. It is true, that on a fresh, fertile soil, with good implements which are now procurable in most of our leading cities, and with the common modes of cultivation almost everywhere adopted, one may get along for a time very well; and if the soil be sufficiently deep, one, two, or perhaps even three generations may succeed, with industry and economy, in not only securing a good livelihood, but in accumulating property to no inconsiderable amount. But if the history of the past, the embodiment of others' experience, and the principles deduced from both, which we call *science*, be unknown, or unheeded, there will come a time when the crops of the occupant must suffer; and if this neglect be continued, his lands will become impoverished to the extent of withholding all adequate return for the labor and capital bestowed upon them; and he is driven as a last resource, to the abandonment of his paternal acres, endeared to him by a thousand social recollections, to seek in the untamed wilderness, amid disease, privation, and solitude, that remuneration for his toil, which a small portion of science would have realized from his long cultivated fields. The dreaded apprehension of *book farming*, that bugbear to the unthinking and heedless, has kept him from learning the operations and results of innumerable other, older, and wiser heads, than his own, which would have enabled him not only to avoid want, but to have secured a competence, while surrounded by all the comforts and delights of a refined society. Thousands of these examples are furnished annually throughout the whole south; and where purchasers cannot be found for their impoverished domains, they are frequently abandoned to resume their primeval condition of unreclaimed wildness. How this deplorable result may be avoided, can be easily learned by any intelligent person who will read our best American agricultural periodicals and books, and carefully, *cautiously*, if you please, adopt such principles and practices as may be adapted to their particular wants and situation.

The economy of this course withdraws every objection against its adoption. For the paltry sum of \$50, one may obtain a well-selected library of the most valuable agricultural books suited to the peculiar products of any ordinary planter; and for \$5 per annum, he may secure an equal number of periodicals, which may, if judiciously read and applied, produce him twenty times their cost in his augmented crops. This then, is one of the first and most essential reforms I would suggest for every portion of the Union, but more especially for

the south, where the sparseness of population generally, prevents that ready and extensive interchange and observation among the farming community, which other and denser settlements afford.

The second neglect I would mention, is equally indefensible, though perhaps not equally injurious with the first. It consists in that want of *association* or combination of mind, engaged in similar pursuits, which is elsewhere secured by farming clubs and agricultural societies. Through these, the common stock of experience of every planter is brought into one focus. Individual opinions, practices, and results are collected from every quarter, and are here analyzed and compared, and from the combination and comparison of all, a more perfect system is perhaps deduced, than may have been practised by either, not excepting the most successful. The experience of each becomes the property of all; and the best practice of the past year may be the worst of the succeeding; not that this has lost any of its merits, but because others have been substituted more worthy of adoption. Improved varieties of seeds, new species of plants, choice specimens of animals, implements combining better principles and more skilful workmanship, are exhibited; and the researches, ingenuity, and experience, it may be, of a hundred active and intelligent men, are thus brought to one common storehouse, to constitute a general capital for every member of the community. The effect of this annual concentration and diffusion of results among intelligent minds need not be particularized, for they are evident on the slightest reflection, and are abundantly shown wherever adopted.

The extent to which anti-socialism in agricultural matters is sometimes carried, is almost incredible. An enterprising planter who has adopted some of the improved modes of cultivation with success, assured me, that although a Creole, 40 years of age, and engaged in extensive operations, he had never seen the cane planted or sugar made on any other plantation excepting his own. With the utmost enterprise and intelligence, individual action exerted alone, always works to a disadvantage. It is using the short end of the lever, while the long end is within reach.

We have for instance, choice kinds of tobacco, which is successfully raised within this state, worth several times the price of the ordinary kinds, yet few know where to procure the seed, or the mode of raising and curing it. This might be easily attainable through a common society, and if but a few seeds were procured by each, they would soon become widely disseminated. Indigo is still cultivated to a limited extent in some bye places in the state; yet no one hears of it, or knows where and what results are obtained; the mode of cultivation, or the means for procuring the seed, or the best system of cultivation. Immense bodies of lands here, every way well adapted to the culture of rice, lie in utter waste; but if the most successful mode of culture were known, many would be induced to go into it. It is not sufficient to tell them the best modes of raising it elsewhere, for they reply, and justly enough, too, that there are differences of soil, climate, tides, irrigation, &c, which, if foreign modes were strictly observed here, would result in loss. Successful examples, ~~alone~~ at home

and under circumstances similar to those which would control them, are what are essential to commend them to their adoption.

In the introduction of improved implements the effect would be similar and far more productive of immediate and wide-spread improvement. Most planters are chary of purchasing and supplying these, from apprehensions of unfitness for their particular wants. With many, argument or illustration are of no avail in commending them to their use. They wish to see them tried, yet there is little hope of their realizing so desirable a consummation, and an association that would bring the planters together at stated periods, would afford an opportunity of mutual communication, and collect in one point the combined experience of all. This would dispel doubt, inspire confidence, and save to each the trouble and expense of multiplied experiments. A hundred experiments, undertaken by as many persons, would be thus as equally available to each, as if combinedly undertaken by one; and while the burden of trial would be divided, the benefits would enure to all participating in them.

The benefits arising from the extensive use of implements better suited to the cultivation and conversion of farming products are great and not generally estimated. If, for instance, a style of plow could be introduced that with the same expenditure of force (team), would effect this division and pulverization of the soil more perfectly, crops would be largely augmented at no increased expense. If to this improvement, economy in their use, better and more scientific construction—if of more durable materials, and more cheaply repaired—if these several advantages be superadded—a large and important advantage is thus secured. Now this is precisely what is claimed, and I think justly, in the use of the best and most approved cast-iron plows. And in almost every instance where they have been fairly tried, these advantages are conceded. One planter told me he had used three plows 115 days without apparent wear, or any repairs, and had never before used a wrought-iron plow longer than 15 days without requiring to be taken to the smith for sharpening. Their merits are acknowledged by those who have used them; they are denied only by those who allow preconceived opinions (prejudice), to usurp the place of experiment. What is true of plows is equally so of numerous other implements, but I cannot further particularize.

New Orleans, Jan. 4th, 1848.

APPLICATION OF MARL.—Experience proves that marl is a treasure to the farmer when properly applied to light sandy soils; yet, the same experience teaches him, that it cannot be applied, with success, to weak, worn-out lands, without some kind of vegetable or grassy matter covering the surface to prevent it from sinking into the earth. Therefore, instead of being applied to broken ground, it is better that all clays and marls, should be spread on the sod in the form of top dressing, where they should remain for one or more years, in order that the frost may shiver and temper the clods by bringing their particles to a complete separation, and where the vegetable matters may putrefy, keep moist, and cause a fermentation that will mix or unite these bodies together.

ACCLIMATIZING HALF-HARDY TREES OR SHRUBS.

I HAVE several hundred pomegranates, which have been flourishing for four years in open ground. About the 1st of November, in each autumn, when the plants were small, I had driven, at suitable distances around the plot, several slight posts, to which were nailed, only for the winter, some rough boards, simply making a rude board fence. On the top of this fence, loose boards were laid overlapping each other, unnailed, forming a kind of roof. Early in March, each year, the whole of this structure was removed. By this protection, the trees have now become so strong and vigorous, and so firmly attached to the soil, that a simple binding in straw will suffice for their protection; and perhaps even this may not be permanently required.

Fig trees succeed by the same treatment; also, the *Eriobotrya japonica*, *Zizyphus jujuba*, *Nandina domestica*, and even the *Camellia japonica*, several varieties of the *Azalea indica*, *Rhododendron arboreum*, in all of its varieties, as well as the *Lagerstromia indica*. The *Chimonanthus fragrans*, *Aucuba japonica*, and some of the *rhododendrons*, when quite small and weak, require a slight protection of straw or earth; but after a couple of years they need no covering to withstand the winters here as perfectly as the most common shrubs. The *Euonymus japonicus*, both the green and variegated-leaved varieties, need no protection whatever, and there are no two shrubs of the evergreen class that are more beautiful.

WM. R. PRINCE.

Linnean Botanic Garden,

Flushing, January 4th, 1848.

INFLUENCE OF FORESTS ON THE DISTRIBUTION OF RAIN AND HAIL.

In every instance, and in every country of the globe, where the forests have been cleared, a diminution of the fall of rain or snow has been the result; and these regions annually suffer, more or less, from tempests or storms of hail. In some parts of Europe, it is well known that insurance companies against hail demand, for certain districts, a higher premium than in others on this account.

The evidence of Humboldt, Von Buch, Daniell, and others, is so powerful on this subject, that it should be particularly impressed upon the attention of the reader how important the existence of wooded spots become to the agriculturist. "By felling the trees that cover the tops and sides of the mountains," says Humboldt, "men, in every climate, prepare at once for two calamities for future generations—the want of fuel and the scarcity of water. Trees, by the nature of their perspiration, and the radiation from their leaves, in a cloudless sky, surround themselves with an atmosphere constantly cool and moist." Hence all large forests tend to attract the clouds formed by the condensation of the moisture which rises from the earth, and thereby produce an abundance of rain.

HOW TO MAKE METHYGLIN.—Take honey 100 lbs; water 24 gallons; put them in a cask, and stir daily until dissolved. Then add yeast 1 pint, and a decoction, from 1 lb. of hops previously boiled in water, sufficient to make 6 gallons of liquid. Mix well and ferment.

EMPLOYMENT.

"I say, sir, it is employment that makes people happy."

NEVER was there uttered a truer sentiment than the above. Indeed, it is *employment* that makes people happy, and without it they must be wretched. Yet, how common it is to hear the laborer complain of his destiny, and long for the apparent ease and quiet of the man of affluence. 'Tis true most of us are looking forward to an imaginary time—a sort of Utopian existence—when the cravings of our nature shall be satisfied, and when we may lay aside the cares and anxieties that now cluster around us, and enjoy our *otium cum dignitate*. But should it ever be my misfortune to be so situated that I should have no occasion, and feel no desire, for further exertion—with no responsibilities resting upon me, and nothing to excite my aspiration—I should find myself more miserable than my worst enemies could wish me; and I would turn with melancholy retrospect to those by-gone days when existence was sweetened by employment.

There is no happiness in idleness. It was the decree of Omnipotence, when our first parents were expelled from Eden, that all their progeny should obtain their "bread by the sweat of their brow," and, as some one has observed, a *milder* curse could not have been imposed. But despondency is not the only evil result of indolence, for mind and body sympathize with one, and act and react upon each other. When existing in this unnatural state the energies stagnate, the wheels of thought move as though they were clogged; the affections become dormant; the vital fluids circulate with less vigor; and lassitude or debility seem to take possession of the whole system, mental and physical.

Let not the robust farmer, then, who feels the necessity of toiling for his support, bemoan his lot, nor suppose that his wealthy neighbor, who has surrounded himself with more splendor, and who reposes on a couch of down, is more happy than himself. *More happy* do I say? The laboring man enjoys more genuine happiness in one day than the wealthy loungeer does in a month, and he should learn to regard the wretched man with pity rather than with envy.

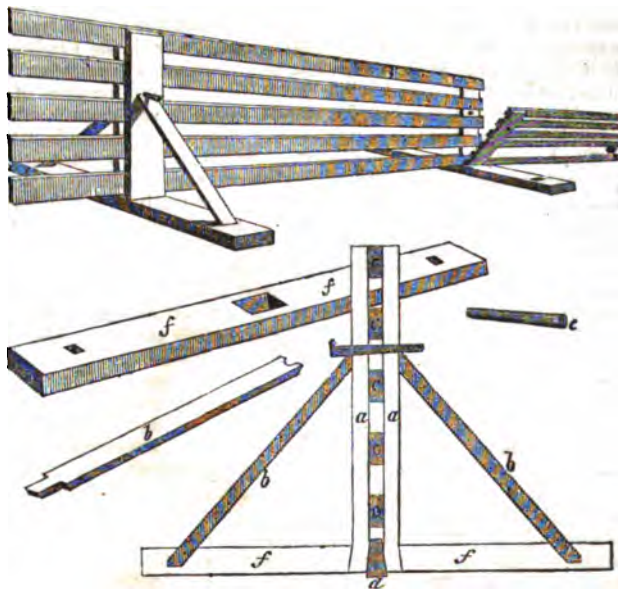
J. McK.

Greenport, N. F., January, 1848.

EXPERIMENT WITH ASPARAGUS.—The London Gardeners' Chronicle gives the following method of growing asparagus at Nice. Take a quart wine bottle, invert it over an asparagus root just rising from the ground, and secure it to its place by three sticks. The asparagus will grow up into the interior of the bottle, and being stimulated by unusual heat and moisture, will speedily fill it. As soon as this has taken place, the bottle must be broken, when the asparagus will be found to have formed a thick head of tender, delicate shoots, all eatable, and as compact as a cauliflower.

A CHEAP PORTABLE FENCE.

HEREWITH I send you a plan of a portable fence, which is considered of much value in this part of the country, where it is commonly used for subdividing pastures and fields; but it will answer well for outside fence, by increasing the height and base each one foot. Its chief value, however, consists in its portability. For pasturage or feeding standing crops to cattle, sheep, or swine, when the field is large, it is of much importance to confine these animals to a small part at a time, until it is exhausted; and, in succession, to feed over the whole ground. In this way, a field covered with red clover may be fed to cattle several times over in the course of the season, at a trifling expense.



A PORTABLE FENCE.—FIG. 19.

Description.—Separate pannels are formed of five rails *c, c, c, c, c* (fig. 19), sixteen and a half feet long, five inches wide, and one inch thick, made of good sound, tough timber, securely nailed, with wrought-iron nails, and clenched upon three battens *a, a*, those at the ends being six inches wide, one and a quarter inches thick, and three feet, ten inches long. The single battens are of the same material as the rails, four feet long, and joined as in the annexed drawing, which is a perspective representation of the fence, with one pannel in the act of being raised. Each pannel rests upon sills, *f, f*, four feet long, six inches wide, and two inches thick, having an angular mortice at each end to receive the foot of the braces, *b, b, b*. These braces are thirty-three inches long between the shoulders, and of the same thickness and width as the rails. The tenons of the braces may be one and a half inches wide and from one to two inches long, with a semi-circular notch in the upper end, designed to rest against the binding pin, *e, e*, which is twelve inches long, three quarters of an inch thick, and one and a quarter wide, at the wide end, tapered down to three fourths of an inch. It will be seen that the

pins are slightly tapering, so as to bind down upon the braces, and permit the pannels to shear a few inches in overcoming uneven ground. The battens are let into the sills through mortices, slightly dove-tailing at the bottom, and secured by the wedge or key *d*; or they may be furnished with knees made of strap iron one and a half inches wide, one eighth of an inch thick, and fastened with staples and nails.

This fence is designed chiefly as a hurdle, combining the advantages of great strength, lightness and durability. Twenty rods in length, make one common load, which is so easily taken down and set up again, that two hands, with a suitable team, can remove a quarter of a mile of it from one side to the other of a large plantation, and set it up again in a day.

J. L. HARDERMAN.

Arrow Rock, Mo., Dec. 3d, 1847.

FACTS IN FARMING.—No. 1.

THERE is a remark we often hear, when urging farmers to take an agricultural paper, which is this: "Why, sir, there is nothing practical in them, or so little, that we will not pay our money for one." Now there is no truth in the remark; and in proof of my assertion, I ask of any candid reader if he ever knew a farmer who has attentively read an agricultural paper for two years, without improving his farming more than ten times the value of the paper? A neighbor of mine, an old man, has taken one for two years; and a few days since, he remarked to me, that he had made an improvement which was fifty dollars profit to him last year. After reading your articles on draining and irrigation, he drained a cold, wet field, and turned the water from it so as to run over a dry, adjoining meadow, thus "killing two birds with one stone," by draining the one and irrigating the other.

In 1840, I had six acres of land entirely worthless, being covered with bogs and bushes, upon which the water stood most of the year. I drained it, cut up the bogs and bushes, plowed and sowed it with buckwheat, for two years, and then seeded it down with Timothy. The result of my labors was as follows:—

160 bushels of buckwheat, valued at . . .	\$80
8 tons of hay, in two years,	80
Increased value of the land,	150
	<hr/>
	\$310

From this deduct—

For expense of draining, bogging, &c., . . .	\$100.00
For seeds, plowing, harvesting, &c., . . .	118.50
	<hr/>
	\$218.50

Net profit, \$91.50

I would ask every farmer who has such land to "go and do likewise." It would be a better investment than to put out money on bond and mortgage; for in four years, and often the first crops will repay all expenses attending the improvement, it will be permanently valuable; besides the gratification of beholding that which was worthless and unsightly, converted into a productive and smiling field. I have for ten years made experiments in raising various farm crops, and in

feeding them. I have experimented also, with a variety of manures. If this communication is of any value, and if you want more, I will furnish an article monthly, recording actual experiments and the results.

D.

Orange County, N. Y., Jan. 8th, 1848.

The above is a valuable article, and we are much indebted to the writer for it. We trust he will give us others for publication. Here are the details of an improvement which any farmer can make, however limited his means. We wish to impress upon our readers that it is for the benefit of the small farmers, and those of limited means, as well as those of extensive domains that we write, and we hope in return that they will favor us with the details of their operations. Make no apologies, but *give us the facts*, and we will see that the printer puts the matter in such a shape as to read properly and correctly. There is no class of people with whom we so deeply sympathize, nor for whom we are so ready to toil, as the farmers. We care not how few their acres or how humble their improvements. It is the men and their occupation that interest us.

REVIEW OF THE AGRICULTURIST.

HAVING been called away from home during the autumn and part of the winter months, to visit my new lands in Maine, and oversee some improvements making in them, I have been obliged to neglect the *Agriculturist* for some time. I shall now give a brief review of the remaining numbers of the last volume, and endeavor not to be quite so much behind hand for the future.

AUGUST NUMBER.—*The best season for cutting bushes*, is not the month of August, and although it is a stereotyped saying, nevertheless, I think differently. I have known many persons put off cutting bushes when they had leisure to do it, waiting for the "right time in the moon," or some other *right time*, till at length *the time never came right*. I say, therefore, cut the bushes whenever your other avocations will permit. But what would be far better than the implement figured with the article now under review, would be to procure a *grubber*, and with it hitched to a good yoke of oxen, pull out the bushes by the roots. [For such a bush puller, see cut and description in Vol. v., page 139, of the *Agriculturist*.]

Cisterns for Farm Buildings.—I wish to inform those who are hesitating about building a cistern on account of its expense, that I have known several of them made of the capacity of one hundred barrels, since I wrote upon this subject, with two barrels of cement, and but little mechanical labor, as the plaster was laid upon the sides of the pit, without any brick work, which any active farmer can do in part of a day.

Culture of the Sugar Cane.—If all of the readers of the *Agriculturist* have read this article with the same satisfaction that I have, they have already thanked R. L. A. for a fund of pleasure and useful information. I was not aware, till I read this article, that sugar cane was ever planted so wide apart as eight feet between the rows. If planters can only be induced to get into the habit of, using the best of improved plows, cultivators, and other im-

plements, there will soon be seen an improved state of agriculture in the fertile, sunny region of sugar cane and cotton. Show me the implements of husbandry of any people, and I will tell you, not only of the condition of agricultural improvement among them, but of their moral and intellectual condition. It has been too true of the south-western portion of our Union, that their rude and unimproved implements have indicated a rude people.

Cure for the Foot Rot in Sheep.—This recipe may answer very well for a farmer who has only a dozen or two of sheep. But to catch and anoint the feet of a thousand head, every day for a week or two, would be no fool of a job. And less than that would be "no cure," and consequently "no pay" for the labor. As the articles can be applied in a liquid state, then for a large flock, put the preparation in a shallow trough, and set where the flock, in going to fold, will walk through it, and thus it will be applied to the feet without labor.

SEPTEMBER NUMBER—Coffee Mills.—First let us take a cup of coffee, ground in one of the mills that are so beautifully figured in this number. I have just returned from a visit to a family where one whole hour was spent in that miserable cold back kitchen, grinding coffee for breakfast, upon one of those abominable nuisances so abundant about the country, that the owners have so long been accustomed to call by the name of *coffee mill*, that they are at length led to believe in the truth of their assertion. My dictionary says: "Mill, an engine to grind;" but one half of all the things called coffee mills in the country are good for nothing but to grind away precious time; while here we have the representation of a most perfect article, for a couple of dollars; which if owned by a million of families in the United States, would save a million dollars' worth of time every year. So much for coffee. The other mills are equally valuable.

Farm Fencing.—"The system needs reform." The writer need not have said more. How could he?

Tethering Stock.—But this writer has said more—much, very much, in favor of dispensing with many cross fences. Mr. Marsh's system of fastening animals with poles instead of ropes or chains, is something new to me, and so good that I wish to commend it to all who would tether stock.

How to Fry Fish.—True as preaching, only more so. And if nut-cake friers would pursue the same rule, we should not so often have lumps of dough soaked in lard, set before us and called fried cakes. Bah! the nasty things!

Value of Hen Manure.—Truth again. And if it were imported from Peru, those who now waste it would buy it.

How to Make Apple Butter.—These are very good directions; but the article itself is by no means so good as the old-fashioned, New England apple sauce—particularly when it contains about one third part quinces.

The Horse Tamer or Whisperer.—Although I am not a believer in the humbug of animal magnetism, I have no doubt but it is owing to this science that some men are able to tame horses. I do not wonder that Sullivan never disclosed in what his art consisted; for he did not probably

know himself. I have often thought that I possessed a small share of such power, but I cannot tell how nor why, unless it is animal magnetism.

OCTOBER NUMBER—How to Whiten Linen.—If this article should create a demand for chloride of lime sufficient to whiten all the "linen that has acquired a yellow or dingy color by careless washing," I should like to know it in time, as the price of the article would advance most enormously. To prevent the fluctuation in trade, I beg to add, that my grandmother—that was a long time ago—had a very excellent way for a farmer's wife, to whiten her linen, by some kind of process she used to put it through, in which soap and water and a nice grass plot were the principal ingredients. I presume that the same process would still answer, if the secret is not lost—as I believe that of spinning is!

Domestic Flora of China, No. 4—Cemeteries.—I have before commended these articles. From the present one, the "outside barbarians" might learn something from the *inside* ones. Reading this account of the Chinese manner of disposing of their dead, brings up anything but pleasing reflections upon the burial places of this country; and almost makes me wish that I had been born to die in a country where my last resting place would have been in a grove of flowers, upon the bank of a gently murmuring rill, or on the sunny side of some repose-inviting hill. "The flowers which the Chinese plant on or among their tombs, are simple and beautiful in their kind." What a contrast between those of our own country, covered with mayweed, mullen, hoarhound, burdock, and smart weed. And often located upon some waste piece of uncultivated, neglected land.

"Ye living men come view the ground,
Where you must shortly lie,"

and say which are the greatest barbarians, ourselves or the Chinese?

Long Island Lands, No. 1.—This is a most interesting article, and adds greatly to our stock of information concerning a large tract of land lying near enough to New York city to be advantageously cultivated as market gardens; taking into account water and railroad facilities, and yet it is less known and appreciated than are some of the actual deserts of the far west. Talk not to me of emigrating to Virginia, Illinois, Texas, nor California, while untold acres on Long Island are lying waste within three hours' ride of this city. I suggest the formation of an association similar to one formed in France some years since, to furnish cultivators to the extensive mossy moors of Flanders. Can you publish an account of it? [We will see hereafter]. It needs but small capital and plenty of laborers. New York can furnish the first and emigrant ships the latter in great abundance.

Cost of Light.—C. D. has the thanks of his "quaint and amusing friend," and will please to give us *more light*. By the by, which of the definitions of "quaint" did he mean? Nice, pretty, exact, or odd? [He doubtless meant the *second*, as Reviewer is well known among his friends as a very *handsome* man—the word *pretty*, however, would be more appropriately applied to his daughters]. He does not know me, that is evident; for

I am not even ugly enough to make me odd. Though "comparisons are odious," I will not think your correspondent so, if he will make the comparison between tallow, stearine, wax, &c., including lard, if you please, in the common household lard lamp.

Smoke Houses.—The grand secret in smoking meat is to apply it to the hams cool, and never so intensely hot as to destroy the vitality of the atmosphere. Give the smoke room a free vent at all times, and don't smoke in damp weather. This idea is not original, but I have proved it good.

NOVEMBER NUMBER—Saur Kraut.—"If any be left it is equally good warmed over." Hai-yah, too muchia true. And so is

Texas Enterprise, as in this short article set forth, where "they have a most luxuriant soil and proverbially healthy region." Through all time and space, the first breaking up and cultivation of luxuriant soils in a mild latitude have, and ever will, produce bilious or aguish diseases; and all who desire to emigrate from an old worn-out, or sterile soil, to a luxuriant one, should be made acquainted with this inevitable law of nature.

"Excellent land," says the Texan writer, "well watered and timbered, can be had for one dollar an acre." Better land for the growth of health and happiness, and increase of all the domestic comforts of life, can be had within half a day's ride of your office, Mr. Editor, for less money, taking into account the cost of emigration, and making that *cheap land* into a farm. Heaven knows that Texas land ought to be cheap, for an awful quantity of human blood has already been poured out to purchase it.

Western Agriculture—Corn Cobs.—I am glad to see that Mr. Robinson is still flying about among the pigs, and giving us interesting descriptions of the manner of making them into pork and other matters. Some of the things here stated are instructive, and others quite amusing. That about corn cobs being good feed, made me involuntarily begin to hum that elegant extract from the poetic writings of old Mr. Yankee Doodle, in which he so earnestly calls upon the aid of corn cobs to screw another idea out of his head; for he says,

"Corn cobs twist my hair,
Mortar pestle pound ye!"
What hearty food I here will add,
The corn cobs when ground be!

But ridicule is not the best way to arrive at truth, and therefore I forbear; and if there really is any nutriment in corn cobs, I hope it will be ground out, so that if any of the family of Yankee Doodle should ever come this way again, they would have to look for something else to twist their hair with besides corn cobs. [Mr. Reviewer had better be quiet, as we shall soon have a corn-cob story to tell him which will make him stare, and prove that Messrs. Robinson and Ellsworth are right].

As for the matter of a *square barrel of flour*, which I am invited to discuss, I think, Mr. Editor, that you have rolled the argument so far, that I need not give it another kick.

Long Island Lands, No. 2.—Another most interesting article. The analysis shows how easily these lands may be improved. As the natural fertility of the Hempstead plains is sufficient to produce a good

crop at first, it is evident, that by turning in green crops and manuring moderately and using lime and ashes, the fertility can be kept up and increased. But let us hear further. This is a very important discussion. None more so.

Granger's Cooking Stove.—My wife says that the one figured in the October number is much the best. She is very anxious to try the new plan of a brick oven in a stove. If it will save cooks the sin of so much bad baking, as is now done in common stove ovens, Mr. Granger will deserve a gold medal for his invention.

Buckwheat Cakes.—Of course Mr. Granger's stove will bake them if well mixed, which "dear Jane" is poetically called upon to do in the Ladies' Department of this number. But no mixing of batter will make the best cakes, unless the meal is right, and this cannot be right, unless the grain is clean, and this cannot be, unless the mill has a good smut machine, and then it must not be ground too fine, nor the shorts rejected; but mix them with the flour, or add a little wheat shorts or corn meal; and although the cakes are not so white, they will be more light, more tender, and exceedingly palatable.

DECEMBER NUMBER—Farmers' Winter Work.—Surely, my dear sir, in this article you have forgotten the wood pile that should always be got up while the sledding is good. What greater pest to a farmer can be conceived of, than the constant call through the busy season of seed time and harvest, of "we must have a load of wood to-day." What bad economy, too, to say nothing of burning green wood, and the necessity of sacrificing a few dry rails every now and then for "oven wood." It is a great mistake to say that at this season farmers and their teams have but little to do. You might have said that many of them do little. But really, there is no waste of time upon a well-managed farm. Even in stormy days, there will always be found plenty of work in the shop; a room that every good farmer will have, where the sled can be made or shod while the snow storm is howling outside. An ox yoke made, or plow mended, and where a stock of axe handles, hoe handles, ox bows, beetles, gluts, &c., &c., should be made in stormy days and laid up until needed. Here too, may the winter evenings often be spent, though never to the neglect of plenty of good reading, social chat, and "Winter Evening Fireside Tales." Such are blessings of a farmer's life, and never should be bartered away for an increase of wealth. It is upon such an evening that I am holding converse with the readers of the *Agriculturist*. May their number be legion.

American Fresh Meats in England.—If you please, Mr. Editor, you have not stated the "only objection to an extensive business of this kind." The grand objection is, a want of permanency in the market. If I adapt my farm and stock to the purpose, and invest a few thousand dollars in the business of supplying the London markets with American fresh meat, how am I to be assured that the market will continue open to me? Any business to be good, must be permanent. But whenever our only or principal dependence is upon a foreign market, for our agricultural productions, then our independence is at an end. There is no market for the farmer equal to a home market.

Reflections for the Farmer.—"There never was a class of people more blessed or more prosperous than the farmers of the United States now are." This is a self-evident truth. Yet I fear that they do not reflect and feel so thankful as is due therefor. Abundance of food is so great throughout the land, that we cannot realize the blessing of such abundance, because we have never known scarcity. It is almost impossible to hear of one of the cultivators of American soil, suffering for food. How easy too for the poor laborer to supply the wants of a family. In many parts of the western states, a single week's work at this season of the year, of a common laborer, at 50 cents a day, will procure eight bushels of Indian corn, four bushels of potatoes, or 100 lbs. of good pork or beef. What a week's supply this would be for a family of starving Irish. Truly, American farmers are blessed with an abundance of the fruits of the earth.

Six Samples of Back-Jersey Farmers.—All of these portraits are so true, that I have already found more than six dozen originals for each of them.

Decomposition of Manures in the Soil.—This letter of Mr Norton's upon the subject of the fertilizing quality of manure settling into the earth, appears to me sufficient to settle the question. In corroboration of his remark upon grave yards, I can call to mind one in particular, in good old New England, that has been more than a hundred years in use, which is located upon a gravelly hill side, and the surface of which is very barren, while a piece of mowing ground at the foot of the hill, has long enjoyed the benefit of the decaying bodies leaching down upon it.

American Forest Trees.—Our friend, L. F. Allen, has undertaken to plead an apology for the ruthless destructive disposition of the universal Yankee nation, in sweeping down all the forest trees from the land they are clearing for cultivation. But the proof adduced, does not sustain the plea in my humble opinion. I have seen the most beautiful park trees that ever grew out of the earth, in the burr-oak openings of the west, as ruthlessly destroyed as I have of any other worthless forest trees. It is the want of cultivated taste, and not the fear that the trees saved from the axe will perish in the storm, that strips the newly-cleared forest farm of every vestige of shade for man and beast, when toiling in the field or cropping the pasture.

And here I close the volume for 1847, assuring your readers that they shall hear from me again. I have been highly interested in my trip "down east;" it is the second time I have visited that country, and I find it going ahead now about as rapidly as the great west. Finding myself so near, I had the curiosity to cross over to Nova Scotia and take a look at the "Blue Noses." I there fortunately made the acquaintance of that renowned personage, *Sam Slick*. His shrewd observations, ready wit, and humor, instructed and amused me beyond measure. I wish you could get him to write for the *Agriculturist*.

REVIEWER.

HOW TO BRING SOWS IN SEASON FOR THE BOAR.—A peck of rye, given to a sow, let her be ever so poor, it is said, will cause her to take the boar.

CULTIVATION OF THE OSIER.—No. 2.

Management.—Osier plantations must be carefully cleaned and hoed every year. Nothing contributes more to the raising of a good crop of twigs, after due preparation of the soil, than keeping them clean. The stools should annually be attended to from the first year of cutting a crop of twigs, by clearing the rotten stumps, and not allowing the plants to be over-crowded by the young shoots at their base. When these have become too numerous, they should be carefully thinned out, and also cut down, leaving only one or two eyes at the bottom of each, until they are reduced to such a number, as the stool is capable of vigorously supporting until the fall of the leaf. A basket maker finds one shoot of 6 to 8 feet in length of more value than four of 3 feet in length; and one of the former of these dimensions will not so much exhaust the stool nor the land as four of the latter.

The proper season for cleaning and thinning the stocks is in March or April, or a month or six weeks before the osier puts forth its leaves. The reason of choosing this period for the operation is, that, if it were performed in autumn, the germs of the buds existing at the base of the small shoots, which have been cleaned off, would swell, in the course of the winter, and be liable to throw out shoots in the following spring; whereas, by delaying the cutting of these, till the sap is in motion, the germs remain dormant, and the whole current of sap is taken up by the buds already formed. The cleaning of the plants may be done with a sharp knife, and, if it has been regularly attended to from the commencement of the plantation, it is neither troublesome nor expensive. Indeed, this care is deemed necessary, were it only for guarding the plants from the ravages of insects.

Cutting and Disposing of the Crop.—The proper season for cutting the basket willow is in autumn, directly after the fall of the leaf. The advantage of cutting at this period is, that the buds which are left to produce the shoots for the succeeding crop, immediately begin to swell, and grow in strength during the winter, in consequence of which, they make much earlier and more vigorous shoots, in the following spring. As soon as the rods are cut, they are generally tied up in bundles, 3 feet, 9 inches in girth; and if they are not intended to be used green, that is, with the bark on, they may be set on their thick ends, in standing water, to the depth of 3 or 4 inches, where they may remain during winter and spring, until the shoots begin to sprout, when they are ready to be peeled. Sometimes it happens that osiers are cut with the leaves on, in which case, they should never be tied up in bundles, on account of the fermentation that would be produced, by binding them closely together in that state. Therefore, they should be set up, thinly and loosely, on their ends, with their tops leaning against a rod supported on two props.

The operation of *peeling* is so very simple that it may be done by old infirm persons at a stipulated price per bundle. The apparatus employed for the purpose, consists of an iron fork, about 16 inches long, with tines or prongs about half an inch in diameter, placed sufficiently near each other to pinch the osier rods, and tapering somewhat towards their tips. The shank, or large end of the fork,

should be sharpened to a point, so that it may easily be thrust into the ground. When the shank of this implement is firmly inserted into the earth, or in a block of wood, the peeler sits down, taking a rod or twig by the small end, in his right hand, and puts a foot or more of the thick end between the prongs of the instrument, which he then presses together with his left hand, while with his right, he draws towards him the rod. By this operation, the bark of the large end will, at once, be separated from the wood; and by shifting or reversing the ends of the rod, and drawing it through the fork, the peeling will be complete.

The rods, when *whitened* or peeled, are usually tied up in bundles, the bands of which are $3\frac{1}{2}$ feet long. In a peeled state, they will keep better to wait a market, than if left with the bark on; for it is stated, that they never fail to produce a greater return, notwithstanding the cost of the labor of peeling, than when sold immediately after they are cut from the stool. In Germany, and also frequently in Scotland, the osiers, after being cut and tied up in bolts, are stacked, or kept in an airy shed; and, when the bark is removed, it is effected by steaming, or boiling them in water. Rods thus prepared, are considered to be rather more durable than when the bark is separated, in consequence of the rising sap; and they may be worked up directly after cutting, instead of remaining for several months in a useless state.

FENCES A DIRECT TAX TO THE FARMER.

In reading Mr. Bacon's article on this subject in the August (1847) number of the *Agriculturist*, there was one sentence, in particular, which I thought ought to be printed in large type and stuck up at every rod of fence in the country. It is this: "There must, indeed, be a horrid lethargy pervading the mind of the body agricultural while they go calmly, and indifferently, and *drudgingly* on, and voluntarily submit to an evil for whose existence there is no pretext or excuse."

Farmers! turn back to page 252 and read this article of Mr. Bacon's again. Think of that township of land, only four miles square, that requires *one hundred miles* of road-side fence! Recollect that this is not an extraordinary case. The whole of the great tract of country in the north part of Ohio, known as the Western Reserve, is laid off in squares almost as exact, though a little larger than the squares of right-angled Philadelphia. And in Michigan, and perhaps some others of the western states, every section line is a public highway by law. This gives seventy-two miles of road, and *one hundred and forty-four miles* of road-side fence, for every congressional township of land, six miles square; besides the occasional "cross roads," and those which do not follow section lines. To fence the roads of such a township with an ordinary rail fence will require *four hundred and sixty thousand, eight hundred rails*; all of which must be renewed every few years. Count these rails at only one cent each, and the cost is \$4,608, which at six per cent. interest, is \$276.48; while the annual decay and cost of repairs, is at least, as much more, making an annual tax of over \$500 for road-side fences in each township. And all for what? I beg of every reader to repeat the question. And

this view of the case is not exaggerated. In many other states, the cost of fencing materials is more than four times as much, and roads equally plenty, to say nothing of division fences through the farms and between neighbors, the great cause of half of the neighborhood quarrels and vexatious law suits, besides the enormous amount of cursing bad fences and breachy cattle.

And yet men "voluntarily submit to an evil," the cost of which is beyond calculation. If every man were directly taxed for the cost of the Mexican war, we should have an outcry louder than the din of battle; and yet that tax would not amount to a tithe of the enormous annual *fence tax* of the United States.

"Farmers, think of it!" Reason upon the subject. Do not scoff at it as the vagaries of "the crazy advocates of the *non-fencing* system." If I rightly understand the creed of all those who advocate this system, it is this: *That every man take care of his own animals—and not compel his neighbor who keeps none, to build miles of costly fence to guard his crops from the depredations of his neighbors' cattle and hogs, which he turns out to roam at large without a keeper, or care where they forage their feed.*

I cannot better conclude this article, than by quoting the closing paragraph of Mr. Bacon's, and at the same time assure him that "I go the whole hog," as we say out here, against the worse than foolish fencing system. "Oh! when will the agricultural public be sufficiently awake to their interest, comfort, and those of the travelling public, to remove these appendages from their premises, [the road side], and rid themselves of a grievous burden?" Echo answers, "Oh! when?"

SOLON ROBINSON.

Lake Court House, Crown Point, Ia.,
January 15th, 1848.

POTASH A PROPER FOOD FOR GRAPE VINES.

HAVING, last year, seen it stated in a paper, that the ashes of grape vines contained a large amount of potash, I caused three vines, of the same size, to be planted in boxes filled with equal quantities of earth, in which I noted the following results:—

No. 1, was supplied, when necessary, with pure water, and in a given time, it increased 6 inches in length.

No. 2, was watered with a solution of whale-oil soap and in the same length of time acquired 9 inches of growth.

And No. 3, I watered with a decoction of potash, and within the same period as above, it grew 18 inches in length!

By the beginning of November, No. 1, and No. 2, dropped their leaves and showed no signs of fruit; whereas No. 3, retained its leaves three weeks later, and in the course of the season shot forth several bunches of fruit, which, of course, were not suffered to grow. This shows the importance of knowing what kinds of salts go to form wood and fruit, in order that we may apply such manures to the soil as the vine or fruit trees require.

I wish we could have full analyses made of our great staple, Indian corn, including the grain, cob, stalk, and blades.

ROSWELL L. COLT.

Paterson, N. J., Janury 14th, 1848.

THE SHEPHERD DOG.

THE animal described by the figure below, is of the long-haired Scottish breed, and belongs to the same family as the Newfoundland and poodle, which embraces the most intelligent and useful of the canine species. There are two classes of these dogs, which differ widely in their size and characteristics.

The larger is of great size and courage, and when protected by a stout leather collar, studded with spikes, is a full match for the wolf. These dogs are used by Spanish and Mexican shepherds, on their wild sierras, as effective guards against the attacks of all marauders, and are essentially the same race as the far-famed dogs of St. Bernard. They are not sufficiently gentle for guides, and the shepherds who employ them, rely on some well-trained wethers or goats to lead the flock at their call. Some have been imported into this country, but on account of their headstrong and ferocious



FIG. 20.—SHEPHERD DOG.

character, and occasional depredations upon the flocks, they have been found unsuited to our wants, except on the borders of the wilderness.

The Colley, or Scottish sheep dog, the English, and those extensively used upon the continent, differ much in their form and appearance, but agree in their intelligence, docility, and usefulness. They are of medium size, with a sharp nose, broad forehead, and small upright ears; they are both shaggy and smooth-haired, with a bushy tail, and much hair about the neck; variously colored, though more frequently inclined to black or darkly spotted and grey; and one branch of the family is entirely destitute of a tail. They possess an instinctive sagacity for the management of sheep; and in company with a well-trained dog, under the direction of the shepherd, they soon become entirely competent to the control of the flock. They perceive his wishes, by a word or sign, and with almost the

speed of the greyhound, dart off to execute them. Accounts of their performances have been frequently related, which seem almost incredible to those unacquainted with their peculiar character. The following anecdote told by the Ettrick Shepherd will show their capacity more fully than any description:—

On one night, a large flock of lambs that were under the Ettrick Shepherd's care, frightened by something, scampered away in three different directions across the hills, in spite of all that he could do to keep them together. "Sirrah," said the shepherd, "they're a' awa!" It was too dark for the dog and his master to see each other at any considerable distance, but Sirrah understood him, and set off after the fugitives. The night passed on, and the shepherd and his assistant traversed every neighboring hill in anxious, but fruitless search for the lambs; but he could hear nothing of them nor of the dog, and he was returning to his master with the doleful intelligence that he had lost all his lambs. "On our way home, however," says he, "we discovered a lot of lambs at the bottom of a deep ravine called the Flesh Cleuch, and the indefatigable Sirrah standing in front of them, looking round for some relief, but still true to his charge. We concluded that it was one of the divisions which Sirrah had been unable to manage, until he came to that commanding situation. But what was our astonishment when we discovered that not one lamb of the flock was missing! How he had got all the divisions collected in the dark, is beyond my comprehension. The charge was left entirely to himself from midnight until the rising sun; and, if all the shepherds in the forest had been there to have assisted him, they could not have effected it with greater promptitude. All

that I can say is, that I never felt so grateful to any creature under the sun as I did to my honest Sirrah that morning."

These dogs are quiet and good natured, never inclined to roam nor neglect their duties, and are as little disposed to injure the animals intrusted to their keeping. They have almost the intelligence of the shepherd in discerning the vagaries of the flock, and ten times his efficiency in driving it. No extensive sheep walks, unless closely hemmed in by impassable fences, should be without one or more of these useful guards.—*Allen's Domestic Animals.*

A REMARKABLE COW.—Mr. John Nesbit, of Washington, Pa., informs us that he has a cow thirteen years old, that has brought forth *twenty-one calves*, at ten different births. At three births, she produced one calf at a time; at four births, two calves each time; at two births, three calves each time; and on the 23d of August last, she brought forth *four calves* at one birth, which are all doing well!

GALLOWAY CATTLE.

THE cut below represents a cow of the celebrated Scotch Highland or Galloway breed. This variety is generally of a black color, and without horns. It is considered among the most ancient breeds of Great Britain, and one of the hardiest, thriftiest, most docile, and most profitable. Many thousands are annually bred among the Highlands of Scotland, where they remain till two or three years old, and are then bought up by the drovers and driven to the richer pastures and milder climate of England. Here they usually remain from six months to a year, and are then taken to the London market. Their meat is considered the finest in England, and commands from half a cent to two cents more per pound than any other kind. They are acknowledged, upon the whole, to be the most profitable beast for the grazier and butcher that is reared and fat-

to their cost. Horned cattle are sometimes so dangerous to each other and to persons, as they move along the roads in large droves, that they have occasionally become objects of dread, and a public nuisance. Another serious objection to them, is, that they cannot be packed so close when transported in railroad cars and in water craft; and thus it costs more to get them to market.

We notice that Youatt, Lowe, and other British writers say; that attempts have been made to improve the Galloways by a cross of the Short-Horn bull without success. This positive assertion needs qualification. We were informed, when in England, that this was true only so far as regards the larger and coarser families of Short Horns; but where a *very fine-boned* bull of good points and *medium* size was resorted to for one cross, and the Galloways then bred back again, it was attended with

marked success. By this means, the descendants had gained in symmetry of form and handling, and in earlier maturity; and lost nothing in hardiness nor in the superior quality of their beef. This cross, after the second generation, rarely showed a vestige of Short-Horn blood—except in superiority of form.

We know very few of the pure black Galloway breed in the United States. The only reason that they have not oftener been imported, is, that the Americans are prejudiced against their color. They do not like black, neither do they like white; but they like to make money, and yet their prejudices



THE GALLOWAY COW.—FIG. 21.

tened in Great Britain. The cows give a moderate mess of rich milk.

This breed has been greatly improved in Scotland within a few years past; and the finest and best of them are now little inferior in point of form to the celebrated Short Horns. Being of medium size, hardy, quick to mature, of fine points, and so superior for beef, we have often recommended them to our countrymen, as a highly valuable race to propagate in the colder latitudes, and among the hilly and mountainous districts of the United States. They can endure short pastures; and are so active, that they get about with greater ease than the larger sorts. We speak from our own knowledge, having often seen them in England, and conversed with the graziers and butchers respecting their merits, and in comparison with other breeds.

Polled or hornless cattle should be bred in remote districts in preference to any other, for the reason that they are *polled*. To grow horns, exhausts the soil more rapidly than growing flesh alone; and they are of but little value in comparison

are so strong that the coveted dollar, thus far, has not been able to overcome them.

We take leave of the subject by quoting the following nursery rhymes, in which will be found as much sound sense as in the prejudices of Brother Jonathan:—

"I do not like thee, Doctor Fell,
The reason why I cannot tell—
But this I know, I'm sure, full well,
I do not like thee, Doctor Fell."

DANGER OF SLEEPING NEAR BURNING LIME KILNS.—During the process of lime burning, carbonate of lime is decomposed by means of heat, and carbonic acid driven off. Hence the fatal effects which have resulted from persons incautiously lying down to sleep near burning lime kilns.

ASPARAGUS BEDS.—Asparagus beds may be made four feet wide, trenched three feet deep, and liberally supplied with well decomposed farm-yard manure. Three rows may be planted in each bed, with the plants nine inches apart in the rows.

SEASONING AND PRESERVING TIMBER.

No. 1.

EXPERIMENTS, in accordance with the testimony of history, prove that, if deprived of its sap or substances tending to organize, and excluded from the contact of moist air, all woody fibre may be preserved for an indefinite period. At a certain depth under water, too, it may be preserved indefinitely, as is proved by the durability of piles. But if not protected against the action of air and moisture, the particles of woody texture are gradually forced asunder, their bright colors fade, pass through various shades till they become jet black, and in process of time, the whole mass crumbles into atoms and final decay.

Numerous attempts have been made from the days of the Romans, to render wood impervious to rot, the ravages of insects, and the action of fire. Among these, the patents of Kyan, Margary, Boucherie, Burnett, and Payne, have succeeded in this object to some extent, by introducing various metallic oxides and alkalies into the cells of the wood, by means of exhaustion and pressure; but whoever will attentively examine a piece of timber with the microscope, will at once perceive, from the smallness of these cells, how difficult it would be to fill them with any fluid by the processes ordinarily employed. Previous to the inventions of Boucherie and Payne, the chief substances made use of for impregnating the timber, were expensive preparations of mercury and copper, which, on grounds of economy alone, would forever exclude them from general use. By Kyan's process, the timber is usually steeped in a solution of corrosive sublimate (bichloride of mercury), in upright tanks, the proportions of the ingredients recommended, being 1 lb. of the corrosive sublimate to 5 gallons of water; and it has been found by experiment, that a cubic foot of oak timber absorbs 3 pints of the liquid, which will usually require about three weeks.

The ingenious method adopted by Boucherie, was, to cut off the top and a portion of the branches of the tree, at the period of the rising of the sap, and then plunge the lower end of its trunk, cut close to the ground, into a basin or vat, containing a solution of pyrolignite of iron, or some coloring matter, which capillary attraction draws up into the cells of the wood in place of the sap—a process evidently limited in its application, and wholly unfitted for the preparation of any kind of timber, except for hoop poles or very small trees.

The chief merits of the more recent invention, in England, by Mr. Payne, consist in the combination and chemical action of different elements, producing a new substance, with new physical characters, which, it is stated, render the wood operated upon unflammable, free from the ravages of insects, and entirely proof against dry rot. By this process, the timber is first placed in a vacuum, in a solution of sulphate of iron (copperas water), which is made to saturate it thoroughly by exhaustion and pressure. A similar operation is then followed with a solution of the muriate of lime, and within the pores of the wood there is thus created, by decomposition, an insoluble sulphate of iron. The principle acted upon by the inventor, was, that the source of the evil exists in the very nature and properties of the wood itself, and that a complete change must be

effected in its structure, by the diffusion of a substance capable of resisting external influences and arresting internal decay. By this process, it is computed, that, taking all expenses into estimation, the cost of preserving the sleepers of a mile of railway will not exceed \$500. Each sleeper, it is stated, will absorb half a pound of copperas in solution, and an equal weight of the muriate of lime.

SOAK FOR SEEDS.

It was observed by Baron Humboldt, that simple metallic substances are unfavorable to the germination of plants, and that metallic oxides promote it in the exact ratio of their oxidation. Consequently, he was induced to seek some substance with which oxygen might be combined in such a manner as to facilitate its separation. In order to effect this, he made choice of *oxygenated muriatic acid gas*, in which he immersed some seeds of the common garden cress (pepper grass), which exhibited germs in the remarkably short period of *six hours*; whereas, when immersed in water alone, they did not germinate in less than thirty-two hours.

Another very successful and economical steep for garden or other seeds, consists of a solution of a *quarter of an ounce* of chloride of lime to *one gallon* of water, in which the seeds should be allowed to soak for the space of *four hours*, and then be sown in the ordinary way. It is stated, on good authority, that corn and peas, treated in this manner, have been known to throw out germs *one and a half inches* in *twenty-four hours*; and in *forty-eight hours*, to acquire roots more than double that length.

The latter experiment may be tested, at a trifling cost, and should it succeed, as stated above, the germination, or coming up of many seeds, may be accelerated at least a week or ten days.

FINE-WOOLED SHEEP AT THE WEST.

MR. NATHANIEL SAWYER, of Cincinnati, Ohio, writes us, that he exhibited six bucks and six ewes of his flock, at the show of the New York State Agricultural Society, at Saratoga last September, and obtained a premium upon them. His flock is what is called the Guadalupe variety, and came originally from New Hampshire. He considers it a pure flock of Merinos.

Mr. Sawyer has a flock of about 1,200 on the prairies, 25 miles west of Columbus, Ohio. He says his sheep are as healthy there as in any part of the Union. The only thing he fears is *dogs*. We trust the Legislature of Ohio, at their present sitting, will have the good sense to pass a law to tax dogs for the benefit of the flock masters of their state. Several thousand sheep are annually killed by worthless curs, kept for no purpose, but to gratify miserable loafers and reckless sportsmen.

We are familiar with the country Mr. S. speaks of, and a more eligible one for sheep and general farming purposes it would be difficult to find.

HOW TO MAKE A DURABLE WHITEWASH.—Take a peck of quicklime and slake in hot water; add, while hot, 6 lbs. of lard or any common grease, 2 lbs. of Spanish whiting, and 3 gills of salt. Stir the mixture well and apply it while hot. Rain nor dampness, it is said, will not darken its color for a great length of time.

NEW YORK STATE AGRICULTURAL SOCIETY.

The Annual Meeting of this Society was held at Albany the third week in January.

George Vail, Esq. in the chair.

Mr. B. P. Johnson, Secretary, read the report of the Executive Committee, which was agreed to, on motion of Mr. McCarthy, of Oswego.

Mr. J. McD. McIntyre, Treasurer, presented his annual report, which shows the receipts and expenditures to have been for the past year as follows:—

Balance from last report, and receipts from various sources during the year, . . . \$6,457.19

DISBURSEMENTS.

Premiums paid,	\$2,226.73
Incidental expenses,	514.78
Library,	61.22
Salaries,	947.27
Expenses, 1846,	812.88
Other expenses,	547.75
Invested 1st Oct. last, . . .	1,000.00

5,650.63

Balance on hand, 806.56

\$6,457.19

The President stated that the permanent fund of the society amounts to \$8,000.

Mr. T. Smith, of Schoharie, moved the appointment of a committee for the selection of officers of the society for the next year, and to recommend the place of holding the next Annual Fair, upon which said committee was appointed, and the following list of officers nominated, and unanimously elected.

For President, Lewis F. Allen, of Erie county.

For Vice President, 1st District, Ambrose Stevens, of New York.

2d District, John A. King, of Queen's.

3d " E. P. Prentice, of Albany.

4th " Samuel Cheever, of Saratoga.

5th " Geo. Geddes, of Onondaga.

6th " Geo. W. Buck, of Chemung.

7th " Allen Ayrault, of Livingston.

8th " James C. Ferris, of Wyoming.

Recording Secretary, Benj. P. Johnson, of Albany.

Corresponding Secretary, Ebenezer Emmons, of Albany.

Treasurer, John McD. McIntyre, of Albany.

Executive Committee, Luther Tucker, of Albany;

John J. Viele, of Rensselaer; Joel Rathbone, of Albany; Theodore C. Peters, of Genesee; Hon.

John T. Bush, of Erie.

Mr. Allen, President elect, then assumed the chair, and made the following address:—

GENTLEMEN,—In accepting the distinguished honor which your partiality has conferred upon me, I should be recreant to a feeling of proper sensibility not to offer to you my unfeigned acknowledgments upon this occasion. Were the Society constituted of an assemblage of individuals for secular or conventional purposes, applicable only to the usual routine of public affairs, the selection of any one of its members to preside over its deliberations, might well be esteemed an honor; but with the high purposes which you have in view, the magnitude of the interests you represent, and the results which our labors, under the Divine blessing, are destined to accomplish, render the position of its presiding officer one of marked importance, and of no ordinary

responsibility; and particularly when I reflect upon the names which have so worthily preceded me in the discharge of the duties which I have now undertaken, I may well doubt my own ability to perform satisfactorily to you my appropriate duties.

The New York State Agricultural Society, gentlemen, is among the new creations of the age, called into existence by the increased inquiry after intelligence, of the most numerous and most substantial class of our population—the farmers of the state. It is not a body of amateurs in science or the arts, who come together to hold polite disquisitions which may or may not have to do with the tastes and the partialities of the world, or of society; but we claim to be earnest men, representing the interests of the mass of our population, whose substantial welfare we consult; and in our labors to promote their prosperity, we seek also to add to their enjoyments by blending with the strictly useful, incidentally, that which shall both elevate and refine.

This society is rapidly building up a character for investigation and intelligence which is already honored at home and inviting respect abroad. It has been ranked among the honorable and distinguished institutions of our country, and under wise influences it may achieve results which generations yet unborn shall rise up and call blessed.

From long association with you, gentlemen, I shall, in the discharge of whatever duties I may be called to perform, be conscious that I am acting with old friends and zealous co-laborers in a cherished cause; and in expressing to you an unfeigned distrust of my ability to perform those duties to you satisfactorily, I will not so far indicate a doubt of your kind indulgence as to ask it for the unintentional errors I may commit; for I know that indulgence is already extended in advance. I can, in conclusion, only assure you that whatever ability I possess shall be devoted to your service; and I trust so to act, that, on retiring from office, my record may not remain unmarked upon the annals of the society.

Prof. J. P. Norton, of Yale College, delivered an address, before the society, and many gentlemen of high standing, from various parts of the state, and the students of the Normal School, combining much useful scientific information, with very happy illustrations of the adaptation of the results of science to the cultivation of the soil. The Professor was listened to with the utmost attention; and at the conclusion of his address,

Mr. John A. King, of Queen's Co., moved that the thanks of the society be tendered to Professor Norton for his excellent and scientific address, and that a copy be requested for publication. Agreed to.

Mr. Geo. W. Clinton presented a memorial of the Common Council of Buffalo, asking that the next Annual Fair may be held in that city. The citizens of Buffalo had waited a long while for the society to gratify them by fixing upon that place as the site of holding the fair; and they believed that the fullness of time had now come. The memorial which he presented was but the echo of the sentiment of all classes of people in that city. A large region of fine country would be greatly benefitted by the holding of the fair at Buffalo, and he would assure

the society that they, and the visitors at the fair, would receive a cordial western welcome.

Mr. T. Smith laid on the table a resolution that it would be judicious for the society to fix a permanent central locality as the place of holding all the annual fairs, after the next.

Mr. B. F. Angel reported that the committee to fix a place for holding the next Annual Fair had unanimously concluded to recommend that it be held at the city of Buffalo.

Mr. L. F. Allen, from the Committee on Fruits, reported a list of pears, plums, cherries, and strawberries, which said committee recommended for cultivation. This was a report in part, and Mr. A. regarding this as an important subject, moved that the committee be continued. Agreed to.

Pears, Summer.—Bloodgood, Madeline, Dearborn Seedling. *Autumn.*—Fondante d'Automne, Bartlett, Seckel, White Doyenné, Swan's Orange or Onondaga, Stevens' Genesee, Louise Bonié de Jersey, Beurré Bosc, Grey Doyenné, Washington. *Winter.*—Beurré d'Aremberg, Glout Morceau, Winter Nelis, Vicar of Winkfield.

Plums.—Jefferson, Schenectady Catherine, Reine Claude, Columbia, Huling's Superb, Bleecker's Gage, Albany Beauty, Washington Bolmar, Prince's Imperial Gage, Coe's Golden Drop, Denniston's Red, Prune d'Agen, Peach Plum, Lawrence's Favorite.

Cherries.—Mayduke, Florence, Black Tartarian, Yellow Spanish, Holland Bigarreau, Downer's Late, Elton.

Peaches.—Early Tillotson, George IV, Grosse Mignonne, Morris White, Royal George, Yellow Rarieripe, Crawford's Early, Red Rarieripe, Red-Cheek Malacoton, Cooledge's Favorite, Malta [?], Breevoort's Morris.

Strawberries.—Early Scarlet, Hovey's Seedling, Swainstone Seedling.

Grapes.—Isabella and Catawba.

The following is a list of the premiums awarded by the society:—

FARMS.

1st premium to John Delafield, Oakland Farm, Seneca Co., \$50.

2d, Peter Crispel, Jr., Hurley, Ulster Co., \$30.

3d, James Pendil, Batavia, Genesee Co., \$20.

4th, L. V. V. Schuyler, Watervliet, set of Transactions.

DRAINING.

1. A. D. Spoor, Troy, Rensselaer Co., \$10.

2. E. J. Woolsey, L. Island, set of Transactions.

3. E. C. Bliss, Westfield, Chautauque Co., Transactions, 1846.

DESIGNS FOR FARM BUILDINGS.

Farm House.—Mrs. Sanford Howard, Albany, \$20.

Piggery.—S. W. Jewett, Weybridge, Vt., \$10.

CHEESE DAIRIES.

Alonzo L. Fisk, Cedarville, Herkimer Co., statements of management of dairy, \$50.

Newbury Bronson, Warsaw, Wyoming, Co., \$20.

BUTTER DAIRIES.

Benj. A. Hall, New Lebanon, Columbia Co., \$50.

FIELD CROPS.

Indian Corn.—Geo. Vail, Troy (2 acres, 67 bushels per acre), \$20.

Spring Wheat.—Robert Eells, Westmoreland, Orange Co. (2 acres, 20½ bushels per acre), \$8.

Barley.—Benj. Enos, De Ruyter, Madison Co. (2 acres, 39 bushels per acre), \$10. E. C. Bliss had not sufficient land for premium.

Oats.—Charles W. Eells, Kirkland, Oneida Co. (2 acres, 85½ bushels per acre), \$10. Benj. Enos, De Ruyter, Madison Co. (71 bushels per acre), \$8.

Beans.—E. C. Bliss, Westfield, Chautauque Co. (31½ bushels per acre), \$8.

Flax.—Wm. Newcomb, Pittstown, Rensselaer Co. (half acre), \$5.

ROOT CROPS.

Potatoes.—Daniel Newcomb, Pittstown, Rensselaer county (1 acre, 405 bushels), \$10.

Martin Springer, Brunswick, Rensselaer county (360 bushels), \$8.

Ruta Bagas.—Joseph Hastings, Brunswick (1 acre, 1,317 bushels), \$10.

Carrots.—Wm. Risley, Fredonia, Chautauque county (half acre, 557 bushels), \$8.

EXPERIMENTS.

W. D. Osborn, Port Byron, Cayuga county, on three acres planted with corn last year. 1st acre manured with ten cords barn-yard manure last year—oats this year, 90½ bushels. 2d acre—corn last year, without manure; oats this year, 88½ bushels. 3d acre—corn last year, manured with eight cords, 112 bushels. Premium \$20.

FRUITS.

Charles Lee, Penn Yan, Yates county, 2d premium for the seedling winter apple, "Waggener Apple," \$5.

The committee also remarked that, two seedling winter apples were presented; one called the "Middle Apple," from Herkimer, Herkimer county, and the other from the seed of the "Newtown Pippin," in Albany county, without a name; but as no description of the growth and habits of the trees was given, they postponed a decision upon them and request that the producers send in the characters and history of the trees.

After the announcement of the premiums,

Mr. Vail, in retiring from the presidency, delivered an address, which presented a very favorable view of the condition of the society, and detailed, in a highly interesting manner, the transactions of the past year.

Dr. Beekman moved that the thanks of the society be tendered to Mr. Vail, for his very able and interesting address, and that a copy be requested for publication. Agreed to.

Mr. Allen laid on the table the following preamble and resolution, to be called up for subsequent discussion:—

Whereas, the Congress of the United States has established an institution for the promotion of knowledge, at the city of Washington, called the "Smithsonian Institute," founded on a bequest for that purpose to the nation: *And, whereas* agriculture being the chief pursuit of the American people, in which at least four fifths of our population are engaged;

and for the most intelligent understanding of its principles, and its successful prosecution, a thorough education is necessary; therefore

Resolved, That a committee of this society be appointed to take into consideration the expediency of appropriating a portion of the patronage of the Smithsonian Institute for agricultural purposes; and also to inquire into the propriety of recommending the purchase by Congress of the Washington estate at Mt. Vernon as the site of an institute for the promotion of agricultural education.

Mr. Nathan Burchard, offered the following resolutions:—

Resolved, That a complete and liberal system of agricultural education will enable the farmer to enhance the value of his landed property, and give him the knowledge to improve the same, and change the various modes of culture.

Resolved, That science applied to agriculture should hold a prominent place in all our seats of learning; and that a properly organized and well-directed agricultural school, embracing a model and experimental farm, would conduce to the elevation and instruction among the industrial classes.

Resolved, That the time has arrived for the establishment of such a system of education; and the object is every way worthy of private and legislative approval.

Mr. Geo. E. Sickles, of New York, seconded the resolutions, and supported them in an effective speech.

Mr. Viele said this was no new thing in the discussions before the society. It had been here before, and the same principle urged upon the community interested in agriculture. He was glad to see that the society still persisted in presenting it. The resolutions, however, proposed no action, and merely expressed an opinion in favor of agricultural schools. The society had applied year after year, to the Legislature, without success; but he hoped that the object would not be allowed to fail for want of the continued exertions of its friends and advocates. Importunity might have its effect, if all else was insufficient; and the Legislature might finally grant our petition from the same reason the young lady gave for consenting to marry—she married her lover just to get rid of him. [A laugh].

Mr. Burrett, of Onondaga, further advocated the resolutions, and expressed the belief that the time had nearly arrived when the wishes of the agricultural community would be gratified by the establishment of the long-sought agricultural school.

The above resolutions were unanimously adopted.

REMEDY FOR A SCALD OR BURN.—Scrape, or grate a raw potato and apply the pulp, as a poultice, to the scald or burn. When dry, repeat the operation until the smarting shall cease. If the skin be broken, the sore may be healed with basilicon salve, or merely by binding on some dry lint, covered with a linen rag burnt brown. Should the part affected be very bad, it may be washed with alum whey; but the operation of the potato poultice is so effectual, that the burn seldom causes an after break in the skin.

MARL, it is believed, will last longer in the ground than any other manure.

WOOL GROWING IN TEXAS.

About five years ago I commenced wool growing with twelve Mexican ewes and one buck, one third Merino, and now my flock numbers between two and three hundred, having sold, about fifty head, mostly wethers. Although sheep do very well here in obtaining their entire living from the pastures, yet I feed my ewes through the winter, in consequence of which, I think they do better, and produce finer wool and stronger lambs.

As there is but little demand for wool in this state, I would like to be informed, through the columns of the *Agriculturist*, the best mode of managing and putting it up for a northern market. Should it be washed? Should it be assorted and each class be put up by itself? And may it be packed up in bales like cotton? An answer to these inquiries will be duly appreciated and thankfully received.

SHUBAEL MARSH.

*Independence, Texas, }
December 20th, 1847.*

In answer to the above, we would refer our correspondent to an article on "Sheep Husbandry in Spain," at p. 148, of our fourth volume; also, to the mode of preparing wool for market, recommended at the convention of wool growers, held at Steubenville, Ohio, on the 10th of February, 1847, an account of which will be found at p. 169, of our sixth volume. (See p. 78 of this number).

Wool, previous to packing, should be thoroughly dried, after which, it matters not whether it be put up in canvass bags in parcels of 200 lbs., or whether it be pressed in bales of 500 lbs., like cotton. Perfect dryness, in either case, is indispensable; otherwise the wool will become heated, ferment, and consequently spoil.

THE RULES OF POMOLOGY.

At the late Annual Meeting of the New York State Agricultural Society, the following Rules of Pomology were recommended and adopted for the guidance of the Fruit Committee:—

Rule 1st.—No new seedling fruit shall be entitled to a name, or to pomological recommendation, which is not at least equal to any similar varieties of the first rank already known; or which, if of second-rate flavor, is so decidedly superior in vigor, hardness or productiveness to varieties of the same character already known; or which may be found of such superior excellence, in particular regions, as to render it well worthy of cultivation.

Rule 2d.—The discoverer, originator, or he who first makes known a new native variety of merit, shall be at liberty to name it, which name, if appropriate, and coming within the rules of nomenclature, shall be adopted by the writer, describing the fruit for the first time; but no new fruit can be considered as definitely named until the same has been accurately described in pomological terms by the fruit committee of some state agricultural or established horticultural society, or by some pomologist of reputation conversant with existing varieties, or until such description shall have been published in at least one horticultural or one agricultural journal, or some pomological work of acknowledged standard character:

and when two persons have named or described a new variety, then the name first published, if consistent with the above, shall be the name of the fruit.

Rule 3d.—The description shall embrace the following particulars:—The size, form, and exterior color; the texture and color of the flesh; the flavor and time of ripening of the fruit, with the addition in stone fruits of the size of the stone, adherence or non-adherence of the flesh, form of the suture, and the hollow of the stem; and in kernel fruits the size of the core and seeds, the length, position, and insertion of the stalk, and form of the eye. In peaches, the form of the leaf glands, and size of the blossoms. In grapes, the form of the branches; and in strawberries the character of the blossoms, whether staminate or pistillate; and also where there is any marked character in the foliage, growth of the young wood, or bearing tree, the same shall be given.

Rule 4th.—In giving names to newly-originated varieties, those in some way descriptive of the qualities, origin, or habit of fruit or tree, or those which commemorate a particular place or person, shall be preferred. All harsh or inelegant names must be avoided, and unless the originator's name be added, no name must be given which consists of more than two words, and no fruit introduced from abroad shall be re-named.

Rule 5th.—Before giving a name to a new fruit, its qualities should be decided by at least two seasons' experience, and no new fruit can be safely recommended for general cultivation until the same has been tested and found valuable in more than one locality.

The above rules of pomology, as adopted by the State Society, we think more just and equitable than any others which have before been published. By these rules, it will be perceived that no paper, however extensive in its circulation, nor any particular writer can monopolize the naming of fruits, as already has been attempted to be done, in one or more instances, well known to the public.

GARDEN FORKS.

These implements are preferred by many to the spade, even for digging open beds; for the compartments or ground can be turned over by them quite as easy, with less labor, and the pulverization of the soil will be more complete. For stirring the earth in plantations, shrubberies, fruit borders, &c., a three pronged fork is often employed, but one with four prongs is no less objectionable, as it will more thoroughly divide the particles of the soil. Price from \$1 to \$2 each.

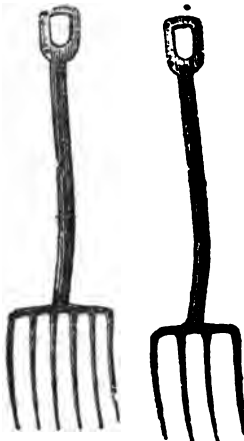


FIG. 22.

MANURE FORKS.—The best forks for handling manure, are those

manufactured by Messrs. Partridge and Hopkins. These are cut out of plates of cast steel, and have from four to ten tines each. They are strong, quite elastic, and if properly used, will endure for a long time. Prices from \$2 to \$5, or 50 cents a tine. We have other manure forks from 75 cents to \$1.50 each.

MANAGEMENT OF HONEY BEES—No. 17.

Bee Pasturage.—There is a mistaken opinion prevalent with those who are not familiar with the honey bee, that those locations, where numerous flower gardens may be found, adorned with all the rich and rare varieties of flowering shrubs, roses, &c., are the most suitable for the prosperity of bees; but this is a great mistake. Flower gardens, in general, have but few attractions, for the honey bee, their great harvest being in the fields, where the flowers of nature invite them to an exhaustless banquet.

The common white, or Dutch clover (*Trifolium repens*), that we often see spread on the road side, and in the fields, with a profusion that calls forth our admiration, is the chief resource of the honey bee; and I think I may truly say, that without the spontaneous growth of this clover, in the vicinity of the apiary, prosperity and success, in keeping bees, is out of the question, unless crops are sown expressly for their benefit of some kind. This white clover may be sown to advantage, in such cases, or buckwheat would do as well, except the quality of the honey from buckwheat is very inferior to that from clover; indeed, there is nothing in this country that yields so pure, so white, and so delicious honey as the above-named clover. Any person wishing to try his hand at keeping bees, should ascertain whether said clover grows spontaneously around his residence in profusion; and if so, he has nothing to fear, with tolerable management. The distance that bees go in quest of honey, I think may be fairly set down to a circumference of two miles from the apiary; and if a full supply of honey can be had within one mile, they will rarely pass such limits. If no honey should be found short of two miles from the apiary, it is probable, that the bees would die of starvation before they would generally pass those limits. I have fully proved the distance, that my bees roamed, during the last season. No one else in a certain direction kept bees, and seeing my bees dart off in that direction, in great numbers, I examined the fields when white with clover blossoms, and I found the bees very thick, within a mile, and very few beyond that space.

The Dutch clover flowers early in June, and continues till August. This season, is the only time in the year that bees can lay up a surplus of honey, and a single day, at this period, is of more real importance to bees, in this respect, than a month before or after; hence, it follows, that if we have much unpleasant weather during this season, of gathering, the bees cannot do well, and therefore they should not be blamed. If we will but notice, with what eagerness the bees rush to and fro, during this important period, to "make hay while the sun shines," we might well profit from the example.

The willow as an early spring resource, affords

much honey when it can be had from no other tree, or from any flower of the field. Then follows the peach blossom; next the cherry; then the apple and pear blossoms; all affording a large supply of excellent honey; and if you have raspberries in your garden, you may expect to see the bees upon every flower; but your peonies, roses, and all your much-admired flowers, with very few exceptions, the bees will never condescend to visit.

Red clover, which covers the fields so luxuriantly, and which would appear to be a fine crop for affording honey, is as useless to honey bees, as so many thistle heads; for the reason that the proboscis of this insect, is too short to admit of extracting the honey from its blossoms.

There are many trees in the forest, or in the grove, that afford honey, either from flowers or from the substance termed "honey dew," that exudes from the leaves. I was once passing through a natural grove of trees, near my residence, in the month of August, and I heard a noise like the faint notes of distant music, and looking up, I saw bees in endless numbers, among the branches of a tall tree (of what species I do not now recollect), and their merry "Te Deum" gave conclusive evidence of the presence of honey in abundance.

As a fall supply, when the season has been unfavorable for gathering honey, there is nothing that can compare with buckwheat, and this crop should be sown near every apiary, for the two-fold crop of grain and honey.

I simply give the principal sources of the bee, for its supply of honey. There are many other things of value to them, too tedious to mention.

As a source for gathering *farina*, the *sunflower* is highly important. *Farina* is as requisite to the young brood as honey, and this must be stored up in advance, and a row of sunflowers, along side of your field, or garden fence, would be worth, to the bees, ten times the trouble of planting. Try it, and see for yourselves, how the bees will roll up the yellow dust from the golden heads, and stick it upon their thighs, and carry it to their hives.

T. B. MINER.

Ravenswood, L. I. }
February, 1st, 1848. }

POLE PRUNING SHEARS.

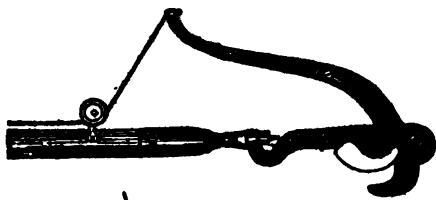


FIG. 23.

This implement is attached to a pole, and operates by means of a lever moved by a cord and pulley. Its use is to enable a person, standing on the ground, to prune trees, some of the branches of which may not, perhaps, be so well trimmed by any other implement. Branches of one inch and a half in diameter may be easily cut off with this instrument. Shears of this kind, of small size, are also

very useful in cutting off from shade and fruit trees, small branches to which insects have attached themselves. Prices, \$3 to \$4.50.

LOPPING OR BRANCH SHEARS.—These shears

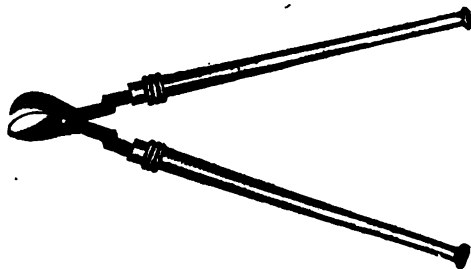


FIG. 24.

are very strongly made, with long wooden handles, and are used for cutting thick branches from trees, shrubbery, hedges, &c. Prices, \$2.25 to \$5.

LETTERS FROM VIRGINIA.—No. 4.

SINCE writing to you last, I have penetrated as far south as Richmond, and am more and more impressed with the advantages which are here presented, not only to the agriculturist, but to the manufacturer and the trader. The natural resources of this fine country are absolutely inexhaustible. Her mines of coal, iron, copper, and even of gold and silver, afford the strongest inducements to the enterprising artisan. And the vast amount of unappropriated water power, which is everywhere to be found, is amply sufficient to set in motion machinery adequate to the supply of a continent. There are hundreds of thousands of acres of valuable land constantly in market and procurable for the merest trifle, for no other reason than that its owners neither have nor can procure the requisite amount of force to put it under cultivation. Every acre of this land, if it were subdivided into farms of fifty to a hundred acres, and subjected, for a single season to a scientific and judicious process of agriculture, might not only be quadrupled in its nominal value, but rendered equally productive with the richest soils of New England or New York. This may be thought the language of exaggeration; but I am abundantly supported in the conclusions I have drawn, by the most experienced and competent judges; and by facts which speak for themselves. There are numerous farms in the poorest sections of the state, where the land has been purchased at from \$3 to \$5 per acre, upon which, in less than two years, crops of wheat averaging from 12 to 14 bushels per acre and of corn averaging from 40 to 50 bushels, and other crops in proportion have been secured.

Too much stress it seems to me, cannot be laid upon the advantages of the climate in reference to the breeding and rearing of stock. It is now the first of February, and cattle have not been confined to the barn yard a single week. Nor have they consumed half a ton of hay each. In the severest seasons, two months, from the middle of January to the middle of March, is all the "soiling" they need; and during a very large portion even of this time, they get good picking in the pastures for several hours of each day.

The facilities for sheep husbandry here are unequalled on the continent. [This was General Washington's opinion. Ed.] The vast mountain ridges extending through the centre of the state, and the high lands generally, are admirably adapted to this branch of husbandry; and the very able letters of Col. H. S. Randall, of Cortland county, in your state, published in the Farmers' Library, are opening the eyes of hundreds in this region to the advantages they possess in this respect. Large flocks of sheep are already being introduced into many portions of the state, where they have hitherto been systematically excluded; and the unreasonable and pertinacious prejudices of many, handed down as heir looms, from generation to generation, are rapidly disappearing before the evidence of facts and the irresistible array of sound reasoning, brought to bear upon the subject by the accomplished intelligent writer to whom I have alluded. I must, however, in this connection, do you the justice to say, that a series of discussions carried on several years since in your paper on this point, first directed the attention of some of our ablest agriculturists to this department, and elicited an array of facts and arguments which have led to practical results of the greatest value and importance.

While at Richmond, I formed some very valuable acquaintances, especially among the members of the Legislature then in session; and was enabled to ascertain their views upon many points of interest to your northern readers. In conversation with several of the most intelligent and influential gentlemen of that body, I gathered the impression that the immigration of northern settlers into different sections of the state, was regarded with the liveliest interest and approbation; that there was great anxiety and solicitude on the part of the citizens generally, to display to their more enterprising northern brethren the varied resources and capabilities of the state, and to enlist their active co-operation in their development, together with an earnest desire to remove every obstacle to their purchase and settlement here; that the *substitution of free for slave labor would be hailed with unfeigned satisfaction*; and that the most effectual and practicable mode of getting eventually rid of the latter, altogether, would be through the former—a consummation, as I firmly believe most devoutly desired by a large majority of the people of the state. I was informed by the proprietor of a large manufacturing establishment, and a most estimable, enlightened, and influential man, that so deeply was he impressed with the importance of the agency here alluded to, for the improvement and regeneration of the state, in its industrial capacity, that he had already given to northern manufacturers the use of large portions of his machinery for a series of years, with the right of eventual purchase on the most liberal terms, accompanied with a stipulation on both parts of the entire prohibition of slave labor on the premises—and that he was prepared and desirous to extend these privileges to the utmost of his ability. He is the part owner and agent of a large tract of valuable land near the great falls of the Potomac, at South Lowell, where there is an extent of water power, unequalled, as I believe, in the Union, and which he is desirous of disposing of, on these terms.

I trust the day is not far distant when the north and the south will know each other better than they now do. I can, at all events, assure our northern friends, that they will not only be heartily welcomed here, but enabled, by the exercise of ordinary industry and a judicious investment of their pecuniary means, to realize, in a very brief period of time, a handsome fortune. Whatever prejudices may exist on their part, in reference to southern institutions and southern modes of labor and of life, they may rest assured, no prejudices are entertained here against them; and that a nearer view and a closer intimacy with their brethren of the south will not fail to dispel their most formidable apprehensions and to draw still more firmly the common bond of union which encircles the citizens of our broad and fair republic. A NEW-YORKER.

We especially commend the preceding letter to the perusal of our northern readers. We have long been convinced that it would be more advantageous for our people to emigrate to the southern Atlantic, rather than to the western states. The climate is milder and healthier in all those sections which are sufficiently removed from the miasma of the rich river bottoms. Then there are the advantages in a great measure of an old-settled country, such as cheap, good land, already long under cultivation; tolerable good roads, churches, schools, villages, mechanics near by, &c. But we will not anticipate our excellent correspondent, who is much more capable than we are to give all proper information. Virginia is a noble state, possessing greater resources and more natural advantages, than any other in the Union; and whenever her name is mentioned, it stirs up an ardent desire on our part to see her develop those great resources, and take the same pre-eminent stand in population, wealth, and morals, that she ever has in the government and politics of the nation.

THE WANTS AND DISEASES OF POULTRY.

HAVING suffered much lately through ignorance and inattention in the management of poultry, I am now forced to confess that I never knew before the practical importance of acquiring information on this subject, trifling as it may appear. I maintain, that every farmer's wife, son, and daughter, in the land, should study the habits and make themselves familiar with the every-day wants of our common dung-hill fowls, which will be obvious by reading what I am now about to relate.

Sometime since, I received from New York, some Dorking and Poland fowls, which I immediately unboxed and gave their liberty. Being curious to know how they would behave when let out, I provided them with a quantity of water, corn, fresh meat, green grass and cabbage, clam shells broken into small peices, and some old mortar of a wall, pounded fine, in order that I might know in future something of their wants. The first things they sought were the pieces of broken clam shells and the pounded mortar of the wall. The fresh water they were so anxious to obtain, as almost to dive into it, body and all. The finely-chopped meat they devoured greedily, and did ample justice to the green food. Thus we may learn that the wants of barn-door

fowls, like those of other farm stock and even those of the whole human race, are somewhat varied. (a)

Notwithstanding I provided everything in my power that I thought would contribute to their comfort and health, my Dorkings were soon affected with a disease, the like of which I had never seen before. I immediately referred to several publications on the diseases of animals, &c., from which I gathered enough to suppose that the malady might be the *gapes*; for they are continually gaping, with a kind of hiccough or catch, in the throat, when they attempt to make a noise; their eyes and nostrils are constantly running; in some instances their eyes are so swollen as to be quite closed up; and they appear to have no disposition to eat, but are rather inclined to droop. (b)

At first, I tried to free their windpipes of any obstruction by the use of the feather end of a quill, dipped in spirits of turpentine, but with no effect. I then made some pills of powdered charcoal, lard, and Cayenne pepper, with no regard as to proportions, but when mixed, of about the consistency of putty. The size of the pills was as large as the throat of a hen is capable of receiving, three of them being a dose for each fowl a day. This *indefinite* prescription, I met with, in a book by S. W. Coles, entitled the "American Veterinarian," which compels me thus openly to disclaim against the almost universal want of *definiteness* in some writers. Too much is left to be taken for granted, and is sent forth to the world as a mere skeleton, leaving the reader to fill it out as best suits his fancy.

While doctoring my fowls, I had a call from a real farmer's "gude wife," to whom I mentioned this disease, and inquired whether she had ever seen or heard of it before. She said, "Indeed I have, and scores of chickens have I lost by it; but I know not what to do for it—neither do I know the cause."

It may be interesting to add, that I have been feeding all my fowls for some time past on mouldy corn; and that I saw nothing of the disease before the arrival of the Dorkings; but at present, my Polands and other breeds are afflicted in the same way. I have now changed their feed, giving them Indian meal, mixed in hot water, with a tea-spoonful of salt to each quart. As to the success of this treatment, time alone will determine.

Another disease, with which a few of my Dorkings are afflicted, is here called the "big knee." I had never heard of this complaint before, and consequently had known of no cure. I applied, however, some liquid opodeldoc to the affected parts, and I think the fowls are gaining upon the disease.

Any light that can be given on this interesting subject by some of your generous correspondents, will be considered of great importance to our Jersey farmers, by whom and myself, it will be gratefully received. W. D.

Morristown, N. J., Dec. 16th, 1847.

(a) The wants of poultry are very clearly shown by a correspondent of the Boston Medical and Surgical Journal, in the following amusing sketch:—

"A most pleasing illustration," says he, "of the want of lime, and the effects of its presence, came under my notice on my voyage from South America to 'sunny France.' We had omitted to procure

gravel for our poultry, and in a few days after we were at sea the poultry began to droop, and wound up their afflictions with the pip, or as the sailors term it, the scurvy. Their feathers fell from their bodies, and it was perfectly ludicrous to see the numerous unfeathery tribe in the most profound misery, moping away their time in an utter state of nudity. Amusing myself one day, by fishing up gulph weed, which floated in immense fields upon the surface of the ocean, I shook from it numerous small crabs, about the size of a pea. The poultry, with one accord, aroused themselves from their torpor and seemingly, as if by instinct, aware of the therapeutic qualities of these interesting animals, partook of them with greater avidity than any invalid ever swallowed the 'waters' of the 'springs.' After a few hours the excellence of the remedy was apparent; the roosters began to crow, the hens to strut and look saucy, and in a few days all appeared in quite a holiday suit of feathers, derived from the lime, the constituent part of the crab shells."

(b) By referring to p. 222, of Allen's "Domestic Animals," our correspondent will perceive that his fowls were affected with the *roup*, *catarrh*, or *swelled head*, where, it is stated that the disease "is shown by feverish symptoms, swollen eyelids, frequently terminating in blindness, rattling in the throat, and temporary strangulation. These are accompanied with a highly offensive watery discharge, from the mouth and nostrils, loss of appetite, and much thirst. They should be placed near the fire; their heads bathed in warm Castile soapsuds, or milk and water. Stimulating food, as flour or barley meal, mustard and grated ginger, mixed and forced down the throats, Boswell says, has been effectual in their speedy restoration. This, like many other diseases, is contagious, and when it appears, the bird should be at once separated from the flock."

PHILOSOPHY OF FARMING.—Here is the secret of good farming. You cannot take from the land more than you restore to it, in some shape or other, without ruining it, and so destroying your capital. Different soils may require different modes of treatment and cropping, but in every variety of soil these are the golden rules to attend to: Drain until you find that the water that falls from heaven does not stagnate in the soil but runs through it and off it freely. Turn up and till the land until your foot sinks into a loose, powdery loam, that the sun and air readily pass through. Let no weed occupy the place where a useful plant could possibly grow. Collect every particle of manure that you can, whether liquid or solid. Let nothing on the farm go to waste. Put in your crops in that course which experience has shown to lead to success in their growth, and to an enrichment and not impoverishment of the land. Give every plant room to spread its roots in the soil, and its leaves in the air

EFFECTS OF CULTIVATION.—Buffon asserts that wheat is a factitious grain, and that there is scarcely a vegetable, whatever its present character on our farms, that can be found growing naturally. Rye, rice, barley, and even oats, cannot be found wild; that is to say, growing naturally, in their present perfect state, in any part of the world.

Ladies' Department.

THE EFFECTS OF COSMETICS ON THE SKIN.

THE deep interest I take in the moral improvement of my young countrywomen, more particularly those who are so fortunate as to be the wives and daughters of farmers, must be my apology for the following remarks upon the article in the January number of the *Agriculturist* on the "Effects of Cosmetics on the Skin." I shall therefore ask no other excuse for expressing my difference of opinion, nor for pointing out what I conceive to be mistaken views on the subject, feeling very sure that a little serious reflection will bring your correspondent over to my old-fashioned way of thinking. Let me first say, however, that I agree entirely with her observations on the different kinds of soap, alcoholic preparations, &c.

We know that all kinds of soap are more or less injurious to a delicate skin, and in cold weather their too frequent use should be dispensed with, as much as possible; but when necessary, the skin should be protected afterwards, for a little while, from the air. Therefore, when cleanliness requires it for the face and neck, they should be washed just before retiring at night; and in the morning, nothing more will be wanted than the usual sponge bath of pure, cold, soft water, and a coarse rubber vigorously applied. Some skins will chap under the most careful treatment that can be bestowed upon them; while others will continue soft and smooth, though exposed to every wind that blows, and seem to be proof against all kinds of domestic labor. For the first of these, the best purifier would be corn, or bean meal, or palm-oil soap, followed by a few drops of honey rubbed on while the hands are wet. Fine dry salt acts very pleasantly on the skin; rendering it soft and smooth, and has also the advantage of strengthening the system, on which account it is often highly recommended by physicians. The best way to apply it, is, to draw on a pair of very coarse cotton or linen knitted gloves, that have been frequently dipped in strong salt and water, and dried after each immersion, and with them rub until the skin looks red, and the blood circulates freely.

But it is the second part of your correspondent's remarks that I intended particularly to notice. That the writer does not speak from personal experience I think is evident, or she would not say that "rouge can be employed, without injury, to brighten a lady's complexion."

Every school girl knows that even the common carmine in her paint box, if put on the cheeks with water, can be washed off without leaving a permanent mark. I have been much in fashionable French society where the use of rouge was not only considered unblameworthy, but in certain cases openly vindicated; yet its deleterious effects upon the skin were undoubted, and openly lamented, as producing a sallow stain, which, as it cannot be removed by ordinary means, makes a continuance of the bad practice seem necessary. And a bad practice it is, in sober sadness, for any woman; but for women living in this bright, beautiful country—for the wives and daughters of American farmers, even to think of using rouge and pearl powder, would be

ridiculous, could it be contemplated in any other light than as a degradation? They, too, who enjoy the glorious privilege, not to be too highly prized, of living in the pure, health-giving breath of heaven,—who are at liberty to exercise daily on horseback, and roam at will over hills and fields. I will not think so badly of them as to suppose that they would condescend to tolerate the use of such misnamed beautifiers. It is true, a pale cheek is not esteemed so lovely as one tinged with

"Celestial rosy red, love's proper hue."

nor is a dark, or coarse skin thought so desirable as one fairer and more delicate; but does not every one know instances among their friends, of faces by nature ugly, to which intelligence, benevolence, and good temper impart the characters of real, soul-like beauty? Believe me, God's handiwork cannot be improved. And the admiration of strangers is dearly purchased by the loss of the respect of those in whose eyes and hearts alone it should be their ambition to appear to advantage; for the mistaken ones, who resort to these paltry arts, do not deck their faces with rouge and pearl powder, to make themselves more *loveable* to their husbands and brothers. It is not put on when they alone are to see them. No—any garb, any faded looks will do for the beings who ought to make their hearts happiness; with whom they are to pass their lives. For whom, then, it may be asked, are they willing to take so much trouble? They who know from experience, may answer.

All substances, without a single exception, that are, or can be used to "impart a delicate white tint to the complexion," are decidedly injurious; marring what they are intended to mend.

The "metallic compounds" are justly said to be poisonous, and the effect, even when sparingly used, is to make the skin look parched and glazed. Magnesia, being a mineral substance, is not much less hurtful; and powdered starch, though the least objectionable of any, is seriously injurious by the mechanical action of closing the pores of the skin, preventing the escape of the insensible perspiration which would keep it clear and moist, and finally producing a sickly, unnatural thickness that makes a fair girl, who would otherwise be pretty, look like Jersey veal, bled slowly to death by the butcher! and a brunette more like a piece of old parchment than a lovely young daughter of Eve. Of such an one, in a neighboring city, I heard a physician remark that this disagreeable appearance, being only skin deep, could easily be removed by the application of a vegetable blister!

But I must close this, already-too-long notice; though something might be said of the pangs of wounded vanity that these short-sighted fair ones would suffer if

"Some power the gift would give them
To see themselves as others see them;"

when a warm day, or a little over exertion, by producing a free perspiration throws off the beautifiers, leaving the white in disclosed streaks, and the red in unsightly blotches, to the mortification of their friends, and the badly-disguised amazement of the very persons they wished to charm. American women should be ashamed to appear under "false colors."

It has often been asked why the women of England have better complexions, and more healthful looks than those of the United States. The humidity of the climate is doubtless one cause of the greater, and more lasting delicacy of the skin; but the bright bloom of their cheeks is the effect of regular, systematic exercise. English ladies of even the highest rank, wear thick leather shoes, and walk every day six or eight miles without regard to the weather, and with no other object than the preservation of health.

I will close with the assurance, affectionately urged upon all who may have had patience to read thus far, that early rising, cold-water bathing, and daily exercise in the open air, as they promote health and cheerfulness, are the only cosmetics an American woman should dare employ. E. S.

Entawah, January 5th, 1848.

Boys' Department.

TECHNICAL WORDS A DETRIMENT TO AGRICULTURAL SCIENCE.

Soon after receiving the *Agriculturist* for November, 1847, my eldest son, an inquisitive lad in his seventeenth year, came to me with the following complaint:—"I wish the printers of papers wouldn't use so many hard words that nobody but doctors and professors can understand. Here's an article in the *Agriculturist* on the 'Effects of Azotized Manures,' by the use of which it is stated, that grain, grass, and turnips will grow to double their ordinary size, and by which many poor, sandy soils can be made rich. Now if this be true, I should like to know what this manure is, where and how it is obtained, and of what substances it is composed."

I bid him look in the works of Chaptal, Liebig, and Johnson, under the head of "Azote," where he would probably find the manure in question described. The disheartened boy replied that he had searched all these works, and had read all about azote, but at every few lines he had been "bamboozled by some bog-like phrase, or hard-mouthed, crack-jawed word, which would puzzle Noah Webster himself to understand."

Now, Mr. Editor, I will admit that technicalities are very proper in some cases, as, for instance, the Latin names of animals and plants, in works treating on Natural History: for, in order to avoid confusion, it is necessary that there should be a universal language in which to express these names, in a manner to be understood by all civilized nations of the globe; but the abstruse, no-meaning terms, or bastard words, half Greek, half Latin, with which many works are filled, appear to me to be a stumbling block in the road to knowledge; and are unworthy of the age in which we live. Perspicuity, in works of science, is as essential as in those of general literature; and it may truly be said, that the progress of discovery teaches us that the sublimest phenomena are dependent on the most simple principles, so that we may be assured that there is no truth in nature which may not be communicated in language so plain and intelligible that it can be comprehended by all.

I would suggest, therefore, Mr. Editor, that you

or some other one, well acquainted with the subject, would write a series of articles for the Boys' Department on "Agricultural Chemistry," expressed in popular language, with such explanations or illustrations that they may be clearly understood by the most ordinary capacity, who will give them a careful perusal. G.

Hartford, Ct., January 28th, 1848.

The suggestion of our correspondent, we think a good one. We can readily conceive the perplexing situation in which one is placed, with an array of hard words before him, the meaning of which he cannot understand. We do not fully agree with our friend, however, in supposing that any of the natural sciences or their collateral branches, can be properly treated of without the use of technical language to some extent. For we contend that there is nothing in nature, whether material or immaterial, organic, or inorganic—whether dead or alive, or exists in fire, air, earth, or water, but necessarily, must have a name, and requires appropriate, though simple language to describe its properties, actions, and manner of being acted upon.

How, for instance, are we to express ourselves when we wish to speak of any of the 55 simple substances, forming, according to the present state of our knowledge, the elements of the whole mass of the material creation? Among these, there are

Five gases, or vapors, namely, *oxygen, hydrogen, nitrogen or azote, chlorine, and fluorine.*

Eight non-metallic solids and fluids—*sulphur, phosphorus, selenium, iodine, bromine, boron, carbon, and silicon.*

Three metallic bases of the alkalis—*potassium, sodium, and lithium.*

Four metallic bases of the alkaline earths—*barium, strontium, calcium, and magnesium.*

Five metallic bases of the earths—*aluminum, yttrium, glucinum, zirconium, and thorium.*

And thirty metals, such as gold, silver, iron, copper, lead, tin, zinc, platinum, and others, the names of which it is unnecessary here to repeat, as, with the exception of those enumerated above, they are not of much importance in the common concerns of life.

We wish that some practical agriculturist, or chemist, who well understands the subject, would furnish our youthful readers with a series of articles, as proposed by our friend above. We see no reason why it cannot be done, if the young tyros will well act their part, and turn to their dictionaries whenever they meet with a word, the meaning of which they cannot comprehend.

A LESSON FOR THE BOYS.—Seven classes of company all boys should avoid:—1. Those who ridicule their parents and disobey their commands. 2. Those who profane the Sabbath, or scoff at religion. 3. Those who use profane or filthy language. 4. Those who are unfaithful, play truant, and waste their time in idleness. 5. Those who are of quarrelsome temper and apt to get into difficulty with others. 6. Those who are addicted to lying and stealing. 7. Those who are of a cruel disposition; who take pleasure in torturing and maiming animals and insects, and robbing birds of their young.—*Exchange Paper.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the English steamers we are in receipt of our foreign journals up to the 22d of January.

MARKETS.—*Wheat* in good demand. *Cotton* a decline of $\frac{1}{4}$ d. per lb. *Flour & Grain* in fair request at a very slight advance. *Naval Stores* brisk. *Provisions* no change.

Money very abundant, good paper could be discounted at 3 to 4 per cent.

Caution in Applying Salt to Fruit Trees.—Common salt may be scattered on the surface of the ground at the rate of 300 lbs. per acre, with perfect safety, so far as vegetables are concerned; but it is a dangerous substance to apply to fruit trees.—*Gard. Chronicle*.

Grafting Vines.—The best time to graft the grape vine is not when the sap begins to rise, for this is of all periods the most improper. Let the vines break into leaf, and then you may graft either on the old or young wood with every chance of success.—*Ibid*.

How to Prevent the Burning of Chimneys.—Fires in chimneys in France have recently been prevented by placing three frames of wire work one foot above each other, near the base of the chimney; no flame will pass them.

Human Bones Used as Manure.—Millions of human bones, mixed with those of horses, mules, &c., collected at Leipzig, Ansterlitz, Jena, Waterloo, and other battle fields, have been imported into Hull, from the continent, and, after being ground to dust, used to manure the fields of Yorkshire. So much for glory!

Fresh Manure not Good for the Vine.—In all wine countries, where we may suppose the culture of the vine to be best understood, the opinion universally prevails that fresh manure ought not to be used, or if it be so, that it should be applied in the autumn after the vintage, so as to be in a great measure decomposed, and incorporated with the soil before the ascent of the sap in the spring. This practice is occasionally followed in the Rhinegau, where a strong prepossession exists in favor of manuring the vineyards, and where small quantities of litter are spread around the roots of the vines; but the best authors concur in recommending that all the manure employed should be first duly fermented, at whatever time it may be used.

The vine dressers of France generally object to manure altogether. The poet Virgil, however, recommends it in some lines which should be committed to memory by all who grow the vine:—

"Next, when you layest in your vineyard make,
Mix some rich dung, and shells and pebbles break,
Spread the good soil with liberal hand around,
And trench them deeply in the lighten'd ground;
Superfluous moisture thus glides through the earth,
And healthy vapors aid the tender birth."

These are wise maxims, and no modern discovery is at variance with them.

East India Guano.—At a late meeting of the Highland Society at Edinburgh, Professor Low presented to the meeting three specimens of guano from Malacca and the neighboring islands. The first specimen, No. 1, consisted of the excrements of the larger frugivorous bats, which frequent in enormous numbers the rocky caverns of the coasts. It is regarded by the natives as inferior, for the purposes of manure, to the other kinds. No. 2, consisted chiefly of the excrements of the smaller bats which feed on insects, and is mixed with the former in the same caverns. It is greatly more valued than the first kind for the purposes of manure. No. 3, consisted chiefly of the dung of insectivorous birds, apparently of the swallow kinds, and is more valued by the natives than any of the others. The Professor mentioned that these substances have been employed as manure by the Chinese and other inhabitants of the countries which produce them, from the remotest times. They are used for

any kind of plants, but the most common application of them is to the rice, or paddy fields. A hole being made in the ground, a small quantity of the guano is deposited, and then the seeds. It is of practical importance that the distinction between the different kinds should be known to the importers of eastern guano. The first kind only, namely, that of the larger bats, has as yet been brought in quantity into England; and having been found inferior to the guano of the Peruvian and African coasts, the eastern guanos have been regarded as of inferior quality, and the importation had accordingly been discontinued. But the second and third kinds will probably be found not inferior to the sorts now in use, and may be procured, especially the second kind, or that of the insectivorous bats, in most abundance from the coasts of Malacca, Cochín-China, and several of the islands of the Eastern Archipelago.

Subsoiling.—Mr. Pusey, in a paper read before the English Agricultural Society, gives the following interesting account of the mode adopted, in the Flemish husbandry, of bringing up the subsoil, and gradually deepening the staple:—They dig trenches, about a foot deep, over the field, from the bottom of which, assuming the soil to be 10 inches deep, they have therefore dug up two inches of subsoil, and as they proceed they fling the whole over each land, on which the seed has been previously sown, which they thus cover. The trench being shifted sideways each year, and the same process renewed, at the end of a certain number of years, two inches of the whole subsoil will have been mixed with the upper surface, and the soil deepened by that amount. The same process is then repeated, two inches deeper. In this way, after four or five courses of trenching, the soil is brought to a depth of 18 or 20 inches of uniform quality.—*Journ. Royal Ag. Society*.

Manure for Wheat.—Mr. Way, consulting chemist of the Royal Agricultural Society of England, has analysed about fifty specimens of different sorts of wheat, and has come to the conclusion that an average crop of wheat takes out of the land the following inorganic substances:—

84 lbs. of silica	6 lbs. of magnesia
20 lbs. of phosphoric acid	1 lb. of peroxide of iron
4 lbs. of sulphuric acid	23 lbs. of potash
8 lbs. of lime	1½ lb. of soda.

It will be seen that the most important ingredients of wheat are phosphoric acid, and the alkalies, potash and soda. If these were returned to the land in sufficient quantity, the minor mineral ingredients, such as silica, lime, magnesia, iron, &c., would in the greater number of cases be supplied by the soil. The phosphoric acid would be most conveniently returned in bone dust, which contains from 50 to 60 per cent. of the phosphates. The alkalies might be supplied singly in the shape of nitrate of soda or nitrate of potash (saltpetre). Guano is valuable, inasmuch as it comprises not only a large proportion of phosphates and alkalies, but also what is of great importance, particularly to the young plant, a considerable portion of ammonia. The principal organic substances he found to be carbonic acid and nitrogen, both of which exists in the air; but it is from the ammonia of decaying animal and vegetable substances that plants derive their principal supply of nitrogen, ammonia being composed of nitrogen and hydrogen. When a plant is burned, the organic portions fly off into the air, whilst the ashes comprise the mineral or inorganic ingredients. Ammonia was essential to the growth of wheat, and his might be supplied to lands which abound in all the mineral ingredients, in the shape of sulphate of ammonia, which might be manufactured from the liquor obtained from the gas works of every town.—*Ibid*.

Editor's Table.

THE POTATO DISEASE.—We are constantly receiving communications on the cause and remedy of the inexplicable disease of the potato, often contradictory in themselves, *few, if any of which, are without exceptions.* By one class, the cause of the malady is attributed to parasitical fungi; by another, to insects or worms; a third, to exhausted vitality from long cultivation; a fourth, to an improper use of ammoniacal or stimulating manures; a fifth, to the want of lime in the manure or soil; a sixth, to drought; a seventh, to a superabundance of rain; an eighth, to a deficiency of electricity in the atmosphere; a ninth, to an excess of electricity; and by a tenth class to a miasmatic or some unknown agency, the mode of action of which, it is beyond human perception to comprehend.

Among the numerous remedies which have been recommended, those that seem most to merit attention, are, the production of new varieties from seed; early planting, followed by early harvesting, and securing the crop from wet and frost; and lastly, what we suggested in our fourth volume, three years ago; namely, *plant on moderately rich, warm land, having a good sod, with no manure but plaster, charcoal dust, wood ashes, salt, or air-slacked lime.*

CROPS OF THE U. STATES IN 1847.—A Washington correspondent of the N. Y. Courier & Enquirer gives the following particulars from the forth-coming Annual Report of the Commissioner of Patents:—

	Bushels.
Indian corn,	540,000,000
Oats,	411,530,000
Rye,	31,350,000
Wheat,	177,000,000
Buckwheat,	11,674,000
Barley,	5,735,000
Potatoes,	97,018,000
Tobacco,	219,964,000 lbs.
Cotton,	1,026,500,000 "
Rice,	103,400,500 "
Silk (cocoons),	404,600 "

GREAT YIELD OF WISCONSIN WHEAT.—Mr. B. B. Reynolds has just completed the cleaning up of ten acres of wheat raised in this town the past season. He has 450½ bushels—a trifle over 45 bushels to the acre. For some nights previously to its being threshed, fifteen or twenty hogs had access to the wheat; and Mr. R. is of the opinion, that, had it not been for this, the yield would have averaged 50 bushels per acre. The wheat was of the bearded, red-chaff variety.—*Watertown Chronicle.*

LEGAL BUSHEL OF GRAIN AND SEEDS IN OHIO.

The following is a copy of an act passed by the Ohio Legislature, in February, 1847, fixing the bushel weight of the leading kinds of grain in that state:—

Sec. 1. *Be it enacted, &c.* That, whenever wheat, rye, flax seed, Indian corn, barley, clover seed, or oats, shall be sold by the bushel, and no special agreement as to the measurement shall be made by the parties, the bushel shall consist of sixty pounds of wheat, of fifty-six pounds of rye, or flax seed, of fifty-six pounds of Indian corn, of forty-eight pounds of barley, of sixty-four pounds of clover seed, and thirty-two pounds of oats.

Sec. 2. All laws and parts of laws inconsistent with this act are hereby repealed.

CULTIVATION AND MANUFACTURE OF PEPPERMINT.—A correspondent of the Syracuse Journal states that there is more peppermint manufactured in Wayne county, N. Y., than in all other parts of the United States put together. He says that a company from New York have purchased the manufacturing establishments at Palmyra, with all the mint now

growing, for which they have paid \$200,000, binding those who have been engaged in the business, not to grow any more mint nor manufacture the oil for a certain number of years.

CHOICE VARIETIES OF APPLES FOR OHIO.—In the late Transactions of the Ohio Nurserymen and Fruit Growers' Convention, held at Columbus, in September last, Mr. E. Nichols, of Walhonding, recommends the following fifteen varieties of apples as adapted for the county of Belmont:—

Early.—Summer Queen; Early Pennock.

Fall.—Patterson's Spice; Angle Sweet.

Late Fall.—Fall Pippin; Rambo.

Winter.—Redstreak or Wells; Golden Russet; Belle Fleur; Spitzenburg (of Belmont); Roman Stem or Rawls' Jannett; Willow or Willow-twig; Roxbury Russet; Polly Bright.

The above-named varieties, in Belmont, he states, furnish fine apples for every day in the year, without extraordinary care. "I have eaten the Queen and the Neverfail," says he, "each of perfect flavor, on the same day; the first from the tree, the last from the cave of a neighboring tenant farmer, put up in the most careless manner; and I must testify, too, that the Neverfail, in flavor, seemed more than a match for the Queen, although one year elder. The Willow is perhaps a better keeper than the Neverfail; and, as a cooking apple, is first rate."

OREGON EXPORTS.—We see by the Oregon Spectator, that 1,736 barrels flour, 191,000 feet of lumber, and 96,000 shingles, were exported from that young territory in the month of April last. The Spectator anticipates, that the coming season, there will be exported 10,000 barrels of flour!

CULTIVATION OF THE GRAPE.—We understand from Mr. George Woodward, of Port Chester, N. Y., that the unsurpassably fine Isabella grapes, three inches in circumference, alluded to at p. 356, in our sixth volume, as exhibited at the Fair of the Brooklyn Institute, in September last, were raised strictly in accordance with the rules laid down by Clement Hoare, in his Treatise on the Vine.

TOBACCO CULTURE IN MASSACHUSETTS.—The editor of the Springfield Republican says, that the cultivation of the tobacco plant has been very largely entered into in that vicinity, within a year or two past. One gentleman of that town (Springfield), had twenty-six acres of it last season. When successfully cured, it proves a very profitable crop, but its cultivation requires much care, and exhausts the soil in a large degree.

A FEMALE FARMER.—The second premium for the best cultivated farm in Litchfield Co., Ct., was awarded the past season to Mrs. Vesta Hawkins, of Watertown.

The farm contains 160 acres. It has been under her management for the last ten years. The committee of examination say: "It is divided the present season into 23 acres of meadow, three and one half corn, six of oats, one and a half of rye, two of buckwheat, a half acre of potatoes, seven acres of woodland, and the residue of pasture land." The produce of the farm for the past season is estimated as follows:—50 tons of hay, 200 bushels of corn, 133 shocks of oats, and 150 bushels of potatoes. The stock kept on it last season consisted of 26 head, including six calves, two horses, and 56 sheep. This farm is conveniently laid out in small fields, the fences mostly of rails, all in good repair, and with the buildings, presents a neat and tidy appearance.—*Ex. Paper.*

POISON FROM LEADEN WATER PIPES.—It is stated in the Christian Citizen that several persons of Worcester, Mass., have suffered during the past year from the use of water pumped from wells through leaden pipes. One individual has entirely lost the use of his hands

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, FEBRUARY 15, 1848.

ASHES, Pots,	per 100 lbs.	\$5 88	to	\$6 00
Pearls,	do.	8 25		8 31
SALE ROPE,	lb.	6		6
SARK, Quercitron,	ton	36 00		36 00
BEANS, White,	bush.	75		1 38
BEESWAX, Am. Yellow,	lb.	22		25
BOLT ROPE,	do.	11		12 1/2
BONES, ground,	bush.	45		55
BRISTLES, American,	lb.	25		65
BUTTER, Table,	do.	15		25
Shipping,	do.	9		15
CANDLES, Mould, Tallow,	do.	12		14
Sperm,	do.	25		38
Searic,	do.	30		35
CHIESE,	do.	6		10
COAL, Anthracite,	5000 lbs.	5 90		6 00
CORDAGE, American,	lb.	11		13
COTTON,	do.	6		10
COTTON BAGGING, Amer. hemp,	yard,	15		16
FEATHERS,	lb.	30		40
FLAX, American,	do.	75		9
FLOUR, Northern and Western,	bb.	5 85		6 38
Fancy,	do.	6 50		7 00
Southern,	do.	6 58		6 95
Richmond City Mills,	do.	7 44		7 50
Buckwheat,	do.	4 12		4 25
GRAIN—Wheat, Western,	bush.	1 10		1 35
Southern,	do.	1 09		1 15
Rye,	do.	85		90
Corn, Northern,	do.	60		65
Southern,	do.	58		63
Barley,	do.	78		85
Oats, Northern,	do.	48		50
Southern,	do.	40		45
GUANO,	do.	9 50		3 00
HAY, in bales,	100 lbs.	70		75
HEMP, Russia, clean,	ton.	225 00		236 00
American, water-rotted,	do.	160 00		220 00
American, dew-rotted,	do.	140 00		200 00
HIDES, Dry Southern,	do.	7		9
HOPS,	lb.	5		8
HORNS,	100.	2 00		10 00
LEAD, pig,	do.	4 25		4 50
Sheet and bar,	lb.	4 1/2		5 1/2
NEAL, Corn,	bb.	2 75		3 00
Corn,	hhd.	14 50		15 00
MOLASSES, New Orleans,	gal.	28		30
MUSTARD, American,	lb.	16		31
NAVAL STORES—Tar,	bb.	2 00		2 25
Pitch,	do.	81		1 00
Rosin,	do.	60		75
Turpentine,	do.	2 50		2 88
Spirits Turpentine, Southern,	gal.	37		40
OIL, Linseed, American,	do.	63		68
Castor,	do.	1 28		1 25
Lard,	do.	80		85
OIL CAKE,	100 lbs.	1 25		1 50
PEAS, Field,	bush.	1 00		1 25
PLASTER OF PARIS,	ton.	2 25		3 00
Ground, in bbls.,	of 300 lbs.	1 12		1 25
PROVISIONS—Beef, Mess.,	bb.	8 25		12 00
Prime,	do.	5 25		7 50
Smoked,	lb.	7		11
Rounds, in pickle,	do.	5		7
Port, Mess.,	bb.	9 75		12 00
Prime,	do.	6 50		9 00
Lard,	lb.	7		9
Bacon sides, Smoked,	do.	6		8
In pickle,	do.	5		7
Hams, Smoked,	do.	8		13
Pickled,	do.	6		10
Shoulders, Smoked,	do.	6		9
Pickled,	do.	5		7
RICE,	100 lbs.	2 00		4 00
SALT,	sack.	1 45		1 55
Common,	bush.	20		25
SEEDS—Clover,	lb.	5		8
Timothy,	bush.	1 75		3 50
Flax, clean,	do.	1 40		1 45
rough,	do.	1 30		1 35
SODA, Ash, cont'g 80 per cent. soda,	lb.	3		3
Sulphate Soda, ground,	do.	1		—
SUGAR, New Orleans,	do.	4		7
SUMAC, American,	ton,	35 00		37 00
TALLOW,	lb.	8		9
TOSACCO,	do.	2 1/2		8
WHISKY, American,	gal.	25		26
WOOLS, Saxony,	lb.	25		26
Merino,	do.	30		35
Half blood,	do.	20		25
Common do.,	do.	15		20

REMARKS.—In Grain, Flour, Beef, and Pork, there has been a decline in price since our last; and we are of opinion that this will gradually continue till the canals open. The farmers will do well to sell their produce now as fast as convenient. Hay, a slight advance. Very little change in other articles.

Money is more abundant.

The Weather thus far has been unprecedentedly mild, and we are looking for an early spring.

To CORRESPONDENTS.—Communications have been received from Solon Robinson, Eli N. Bradley, E. L. Allen, Aaron H. Palmer, W. G. B. H. Fuller, N. Longworth, A. Friend, R. K. Tuttle, J. S. Sergeant, T. L. A. F. Farmer, F. R. S., Wm. Whedden, Fairfax, J. V. B. Rouse, and M. W. Phillips. J. P., of Tallahassee, Florida, is referred to p. 205, vol. ii.; p. 355, vol. iii.; and p. 163, vol. iv., of the *Agriculturist*, for information on the manufacture of sugar; also, to Professor McCulloch's Report to the Secretary of the Treasury, published in the Congressional Documents of last year.

ACKNOWLEDGMENTS.—Transactions of the Worcester (Mass.) County Agricultural Society for the year 1847; Transactions of the Ohio Nurserymen and Fruit Growers' Convention, held at Columbus, in September, 1847; Davis' Text Book on Agriculture, from Samuel S. and William Wood; and Simpson on Chloroform.

THE CAST-IRON FLOW.—We intend to give a brief history of the invention and improvement of this implement in our next.

MOUNT AIRY AGRICULTURAL INSTITUTE.

THE subscriber having rented the MOUNT AIRY FARM, the late residence of James Gowen, Esq., with all its extensive and eligible appliances for the purposes of a *Farm School*, will remove his school, now the Duchess Agricultural Institute, of Dutchess Co., N. Y., to the above place, where he will open for the summer term on the first Thursday of April next; after which it will be known as the Mount Airy Agricultural Institute.

The winter term will commence on the first Thursday of October. This farm, which is located on the Germantown Road, 7 miles from Philadelphia, Pa., having been so long known as the model farm of the United States, the site being proverbially beautiful and healthful, a minute description is deemed unnecessary; suffice it to say, that it presents every inducement and desirable facility for the establishment and maintenance of an Experimental, Practical, and Scientific Agricultural Institute.

The course of instruction will be such as to give the students every facility for acquiring a thorough knowledge of Scientific and Practical Agriculture, with the use of the best modern farm machinery and implements, together with a select farmers' library, including numerous Agricultural Periodicals. Instructions will also be given in all the collateral branches requisite to insure the great desideratum which it was the object of the Founder and Principal to supply by an education commensurate with the exalted destinies of a landed interest.

Chemistry and the other Natural Sciences receive particular attention—lectures with full experimental illustrations being connected with each course. The zoonic course will commence with the horse, a perfect skeleton of which being provided for illustration.

The best facilities are also afforded, that those who desire may here acquire a Commercial Education, to the end that they may lay the foundation in youth of a future life that shall be agreeable, healthful, and useful.

Fee for the year, \$300, payable semi-annually in advance. This sum includes Tuition, Board, Washing, Fuel, and Lights. An extra charge of \$12.00 per annum will be made for pupils not furnishing their own bedding and toilet furniture. The modern languages \$10 each extra per term, as also drawing.

This institution is under the patronage of the American Agricultural Institute, the Farmer's Club of the American Institute, and the Duchess Agricultural Society.

For further particulars, address JOHN WILKINSON, Principal of the Duchess Ag. Institute, Poughkeepsie, N. Y., and after the 30th of March, of the Mount Airy Agricultural Institute, Philadelphia, Pa.

RESIDENTS.

Jas. Gowen, Esq., Philad., Pa.
 Robert Bwing, Esq., "
 Zebadiah Cook, Esq., N. Y.,
 Thos. McElrath, Esq., "
 J. D. Willard, Esq., N. Y.
 Rev. F. A. Farley, Brooklyn, N. Y.
 Sam'l Allen, Esq., N. Y.,
 G. A. Amaux, Esq.,
 C. H. P. McLellan, Principal,
 Poughkeepsie Female Academy,
 Geo. Vail, Esq., Troy, N. Y.,
 Benj. P. Johnson, Esq., Albany,
 H. Wood, Esq., Newburgh, N. Y.,
 Chas. Berrett, Principal, College School, Poughkeepsie, Feb. 1st, 1848.
 Wm. A. Davies, pres't of Far. & Manufact's Bk. Poughkeepsie,
 M. J. Myrre, pres't Merchant's Bank, Poughkeepsie,
 Rev. H. G. Ludlow, Poughkeepsie,
 Rev. A. Polhemus, Hopewell, N. Y.,
 Rev. S. Mandeville, Lagrange, N. Y.,
 Hon. Alfred Conkling, Auburn,
 Robt. Farley, Esq., Boston, Mass.,
 Wm. C. Gibbs, ex-governor of Rhode Island, Newport, R. I.,
 Geo. W. Dobbin, Esq., Baltimore,
 R. W. Crookshank, Jr., St. Johns, New Brunswick.

AGRICULTURAL IMPLEMENTS AND SEEDS.

RUGGLES, NOURSE & MASON,
Inventors and Manufacturers of the Genuine
Eagle Plow,

WOULD inform the public, that their hitherto unequalled stock of Agricultural and Horticultural Tools, Machines and Seeds, at Quincy-Hall Agricultural Warehouse and Seed Store, (over the Quincy Market), South Market street, Boston, Mass., is very much enlarged and improved in quantity and variety.

Within the past year they have done much to improve their Plow Department by constructing more patterns of Eagle, Eagle Self-Sharpening, Hill-Side, and Sub-Soil Plows, embracing additional sizes of improved forms and features.

At the most full, perfect trial and investigation of plows ever had in this country, held in Essex Co., Mass., the Judging Committee, in speaking of the Improved Eagle Plow, to which they unanimously awarded the highest premium, say:—"As near as we can ascertain, this Plow combines all the good qualities manifested in all the others, with some peculiar to itself; and further, our attention was called to the quality of the castings on the Plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of Chilling the Point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character, and we think there is no hazard in saying that the value of the parts thus made is more than doubled by the process."

The following is a copy of their table showing the comparative amount of power in pounds, required to operate the different plows:—

Medium-Sized Plows.

Winslow's,	of Danvers,	463 lbs.
Ruggles & Co's.,	of Worcester,	412 "
Prouty & Co's.,	of Boston,	405 "
Howard's,	of Hingham,	419 "

Large-Sized Plows.

Winslow's	of Danvers,	512 lbs.
Ruggles & Co's.,	Eagle, of Worcester,	426 "
Prouty & Co's.,	Sud A. of Boston,	487 "
Howard's,	of Hingham,	450 "

In 1846 the first premiums were awarded to competitors who used Plows made by Ruggles, Nourse, and Mason, at Plowing Matches in the following named counties, to wit: Essex, Middlesex, Worcester, Hampshire, and Berkshire, in Mass.; Orleans and Windham, Vt.; Kennebec, Me.; Litchfield and Hartford, Conn.; Prince George's and Montgomery counties, Md.

At the Cattle Shows held in 1847, the following Premiums were won by plowmen with Plows manufactured by Ruggles, Nourse & Mason:—

ESSEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
"	"	2d Premium,	" Eagle No. 2.
"	"	3d Premium,	" Eagle No. 2.
Double-Team,	1st Premium,	"	Eagle No. 25.
"	"	2d Premium,	" Eagle Sward B.
"	"	3d Premium,	" Eagle No. 26.
Horse-Team,	1st Premium,	"	Eagle No. 2.
"	"	2d Premium,	" Eagle No. 2.
"	"	3d Premium,	" Eagle No. 2.
Sub-Soiling,	1st Premium,	"	Eagle S. S. No. 1.

MIDDLESEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
Double-Team,	1st Premium,	do	Eagle No. 30.
do do	2d Premium,	do	Eagle No. 20.
do do	4th Premium,	do	Eagle No. 25.
Horse-Team,	1st Premium,	do	Eagle No. 2.

BRISTOL COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Sward C.
do do	2d Premium,	do	Eagle No. 2.
do do	4th Premium,	do	Eagle No. 2.
Double-Team,	1st Premium,	do	Eagle No. 20

BARNSTABLE COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
Double Team,	1st Premium,	do	Eagle No. 2.
do do	2d Premium,	do	Eagle No. 2.
Horse-Team,	1st Premium,	do	Self-Sh'ng No. 3.

HAMPDEN COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2
do do	2d Premium,	do	Eagle No. 1
do do	6th Premium,	do	Eagle No. 2.

BERKSHIRE COUNTY, MASS.

1st Premium, and 7 others, Plows, Eagle Nos. 1. and 2.
1st Premium for the best Plows.

HAMPSHIRE COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
only, used.	7th Premium,	do	Eagle No. 2.
	8th Premium,	do	Eagle No. 2.

MERRIMACK COUNTY, N. H.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
only, used.	2d Premium,	do	Eagle No. 30.
	3d Premium,	do	Eagle No. 2.

WASHINGTON COUNTY, VT.

1st Premium, Plow, Eagle No. 2.

HARTFORD COUNTY, CONN.

1st Premium,	Plow,	Eagle No. 25.
2d Premium,	do	Eagle No. 2.
3d Premium,	do	Sward D.

ROCHESTER, MONROE CO., N. Y.

Horse-Team,	1st Premium,	Plow,	Sward C.
only, used.	2d Premium,	do	Eagle No. 25.

MONTGOMERY COUNTY, MD.

1st Premium	for Three-Horse size,	Eagle No. 25.
1st Premium	One do do	Self-Sh'ng No. 1.

They have also constructed a series of new patterns of Plows, of various sizes and forms (some with wrought metal plates, shares, or points) expressly calculated for the different kinds and methods of cultivation practiced in the Southern States, and which embrace all the alterations which a long and thorough investigation, and more extended acquaintance with southern culture has suggested, to render peculiarly adapted to the planters.

As all of the most important articles in their assortment are manufactured by themselves, and especially for their own trade at their extensive manufactory at WORCESTER, under their own personal supervision, and being importers direct, of all necessary foreign articles in the line, they are enabled to offer an unusual variety of implements of admitted superiority, and on the most advantageous terms.

Their stock of seeds is raised specially for their trade by reliable, and experienced American and European growers, and are warranted fresh and true to their names.

Their prices being uniform, purchasers can rely on having all orders executed on as favorable terms, and promptly, as though they were personally present.

Dealers supplied on the most advantageous and inducing terms.

A. B. Allen & Co., N. York City; H. L. Emery, Albany N. Y.; and R. L. Allen, N. Orleans, agents. Other houses and dealers at most of the principal cities and towns through the country keep our plows and other implements from this establishment.

As it is impracticable here, to give a detailed list of articles embraced in so great a variety, the proprietors propose to forward (gratis) to persons requesting them, by mail, or otherwise, descriptive catalogues of implements and seeds, of nearly 100 pages, embellished with cuts of tools, and containing brief directions for sowing, planting, and culture, with rules for the application of guano, plaster, and bone dust; and remarks on soils and plowing, with general observations, list of Agricultural and Horticultural Publications, &c., &c.

Feb. 10th, 1848.

FINE WATCHES AND CLOCKS.

THE subscribers take this method to inform their friends and the public, that they have received, by late arrivals from Europe, a large invoice of FINE WATCHES, consisting of CHRONOMETERS, DUPLEX, LEVER, and HORIZONTAL ESCAPEMENTS, together with a few WATCHES of an entirely DIFFERENT CONSTRUCTION from any that have ever been offered for sale in this country.

In recommending the above-named WATCHES to the public, the subscribers hazard nothing in saying that, without any exception, they are the finest and most perfect pieces of mechanism ever manufactured. The performance of those they have already sold in this city has equalled their most sanguine expectations.

In connection with the above, they have a large assortment of WATCHES OF EVERY VARIETY, STYLE, AND PRICE, together with an extensive assortment of JEWELRY, SILVER WARE, COUNTING-HOUSE CLOCKS, &c. For sale at prices which cannot fail to prove acceptable to the purchaser.

SAMUEL HAMMOND & CO.,

Importers and Repairers of Watches,
m3* 44 Merchants' Exchange, William st, N. Y.

POUDRETTE.

THE Lodi Manufacturing Company offer for sale a large quantity of their New and Improved Poudrette, freshly manufactured at the following rates, viz.—one barrel \$3; two barrels \$3.50; three barrels \$5; seven barrels and upwards at \$1.50 per barrel. At the Factory, on the Hackensack River, near New York, where vessels drawing 7 feet of water can come, it will be put on board of boats or wagons for 25 cents per bushel in bulk—\$1.50 per barrel. No charge for cartage, or barrels. Two barrels per acre suffice for one application in the hill, on corn. Office of the Company, 56 Liberty street, New York, and for sale by

A. B. ALLEN, & CO., Agents, 187 Water street.

WATER RAMS.

A SUPERIOR article of Water Rams for Sale. Price \$18 to \$19. A. B. ALLEN & CO., 187 Water street, N. Y.

SMITH'S NEW AND IMPROVED BUFFALO SEEDLING POTATOES.

COMPRISING several sorts of Pinkeyes, Russels, Purples, Reds, Whites, Ratersipes, Orange, and others not yet fully developed. All purely Seedling—the product of a careful and extensive experiment of six years with the seed from the balls and its Seedlings in alternate reciprocal culture. *Reciprocal*, because in each rotation the seed improves the Seedlings, and the Seedlings the seed. By this method of culture these potatoes have acquired a *healthy* and *early* character, are *very productive* and of the *finest quality*. Having been for so many years in succession planted in April (in their seed), and early harvested, they have become *constitutionally* what they are, and with early planting, early digging, dry and airy storage, they will prove *sound* and *durable*—and the method continued, the development of new varieties and improvements will also continue.

Also, **N. S. SMITH'S NEW AND IMPROVED BUFFALO SEEDLING POTATO SEED.** This seed was gathered in the balls last September from a four-acre crop of Seedlings, from improved seed sown in April last. Six years alternate reciprocal culture with its Seedlings, has given it an *early* and *very productive* character. It will produce Seedlings of the size of small birds' eggs, as early as May. Season favorable, with good culture, it will produce the first season sown, about 300 bushels per acre, a good proportion of marketable size, sufficiently mature for the table, and seed balls in abundance. Tubers of the weight of 12 oz. were quite common among the young Seedlings last fall, and on the roots of many single plants were found fully set and growing, hundreds of Seedlings, though when so numerous, mostly small. In addition, this seed is impregnated (by the pollen in the blow) with choice varieties, late from Germany, England, South America, Albany, Illinois, and home markets—mostly Seedlings, interspersed for that purpose in the field; and it will represent, when cultivated, all the distinct varieties grown in that field, besides an amusing freak of mottling, tinting, and originality. The seed may be sown in April like tomatos, in a warm bed. Bleached cotton cloth, tacked on frames for potato beds, is better than glass. The beds should open to warm rains and to all warm weather. The same hands in a given time will transplant with the young plants more ground than can be planted with tubers. (Particular directions accompany the seed.) These potatoes and seed were represented at the last two State and County Agricultural Fairs, and the first premiums awarded them. The cultivation of these potatoes and their seed will be continued at Buffalo with every possible improvement. Seedlings of approved varieties carefully packed in chests, and delivered at the wharf or depot in Buffalo, \$5 per bushel—\$10 per barrel. Transportation safe from frosts after February. Seed per paper—sufficient to produce 10 bushels—\$1, with directions. It may be conveyed by mail with double postage. Orders and communications, post paid, will receive prompt attention. N. S. SMITH.

Buffalo, Jan. 13th 1848.

Extract from the Report of the Committee on Vegetables at the last New York State Fair.

"The committee on vegetables have reported, that for the greatest and best varieties of seedling potatoes of approved varieties, they award the premium of ten dollars (\$10) to No. 73, presented by the Rev. N. S. Smith, of Buffalo, who has favored us with the manner of their cultivation and production. He has been six years cultivating them from the balls that grow on top of the vines; his method is the alternate planting of the seed and tuber or potato, taking care to select always the best varieties. He has presented at the Fair as a specimen of his crop this season, thirty varieties of seedlings, all of them evidently of fine quality. His specimens of this year's seedlings, from the seed of his best seedlings, are very fine. He presents, also, fine specimens of seedlings from seed of seedlings grown last year in Prussia, Germany, and fine varieties late from South America. Mr. Smith is confident, and the judges favor the opinion, that in his experiments a great improvement in the potato is already accomplished; and he hopes to be able to obtain permanently, potatoes not only of the finest quality, but perfectly sound and hardy. The judges would recommend the attention of farmers to his specimens on the ground, and also to his mode of cultivation."

mh1

Signed, DAVID GRAY, Chairman.

AYRSHIRE CATTLE.

THREE Cows, one bull calf, and one yearling bull of the celebrated Ayrshire cattle for sale. The cows were selected from the best herds in Scotland and imported by their present owner at a heavy cost. The bulls are out of the above cows by an imported bull. They may be seen on the owner's farm in Connecticut. For further particulars apply to A. B. ALLEN, & CO., N. Y.

FRUIT TREES AND GRAPE VINES FOR SALE.

TWENTY THOUSAND Isabella, Catawba, and Alexander Grape Vines of suitable age and size for forming vineyards. 30,000 Apple, Pear, Peach, Plum, Cherry, Quince, Apricot, and Neotarine Trees, embracing the choicest varieties, for sale in large or small quantities, on the best terms.

The trees and vines will be packed so as to go any distance with the utmost safety, for which only a reasonable charge is made. Letters, post paid, promptly attended to. Apply to

B. G. BOSWELL,

236 Pine st., Philadelphia.

mh2

THE AMERICAN AGRICULTURIST,

PUBLISHED Monthly, by C. M. SAXTON, 205 Broadway, New York, containing 33 pages, royal octavo.

TERMS.—One Dollar per year in advance; three copies for Two Dollars; eight copies for Five Dollars.

The subscription books of the Agriculturist will continue to be kept at the old office of publication, 205 Broadway, by CHARLES M. SAXTON, of the late firm of Saxton & Miles. Travelling Agents wanted, to whom the most liberal compensation will be allowed.

FARM FOR SALE.

SITUATED between two harbors, a short distance from a landing, in Smithtown, on the northerly side of Long Island, 30 miles from the city of New York. It contains 100 acres, 90 of which are tillable, and the remainder consisting of thrifty woodland, with a large quantity of locust. The premises also contain a bearing orchard of choice grafted trees. Buildings and fences in ordinary repair.

Terms.—\$7,000, one half to be paid down, and the balance to remain on bond and mortgage; or it may be exchanged for productive property at \$8,000. Apply to A. B. ALLEN, 187 Water street, N. Y. or EDMUND T. SMITH, on the premises. mh

PURE BLOOD MERINO SHEEP FOR SALE.

THE subscriber being about to retire from the farming business, offers for sale his entire stock of Merino sheep which have been bred with the greatest care from the best flocks in the country.

Of these, 76 are ewes, now with lamb by a buck selected from the recent imported flock of John A. Taintor, Esq., of Hartford, Conn.—25 bucks one year old last spring, from the above ewes, sired by the Rambouillet buck Chancellor, and 50 lambs, the increase of last year, sired by the celebrated Rambouillet buck Grandee, now owned by the Rev. L. C. Bingham, of this place. As to purity of blood, fineness and weight of fleece, and strength of constitution, they are excelled by no Merinos in the country. The buck purchased from the recent importation of Mr. Taintor will also be offered for sale. To those wishing to improve their sheep, or those wishing to start a new flock, the present offers a rare opportunity, as they will be sold without reserve. Communications addressed to the subscriber will receive immediate attention.

THOS. H. CANFIELD.

Williston, Vt., Jan. 17th, 1848.

HORN SHAVINGS.

HORN SHAVINGS for sale at two cents per lb. They are considered more fertilizing than bone dust.

A. B. ALLEN & CO., 187 Water street, N. Y.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, APRIL, 1848.

NO. IV.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

THE OSAGE ORANGE FOR HEDGES.

THE Osage orange (*Maclura aurantiaca*), known also, by the names of "Osage apple," "bow wood," and *bois d'arc*, is indigenous to Arkansas, Texas, and Upper Missouri, and may be safely cultivated for hedges or ornament wherever the Isabella grape vine will thrive and mature its fruit in open air. In its natural habitat, the Osage orange forms a beautiful, deciduous-leaved tree, often growing to a height of 25 to 30 feet, with a trunk from 12 to 18 inches in diameter; and in very favorable situations, it sometimes attains double these dimensions. The general appearance of this tree greatly resembles that of the common orange; and when we view the beauty and splendor of its dark, shining foliage, large, golden fruit, and the numerous, sharp spines, which the branches present, we are strongly impressed by the comparison. The juice of the young wood, leaves, and fruit, consists of a milky fluid, of an acrid or insipid taste, which soon dries, on exposure to the air, and contains a considerable proportion of an elastic gum. The fruit, however, in open culture, does not ripen its seeds north of Philadelphia.

The most important use to which the Osage orange can be applied, is, for the formation of hedges; and there is no plant, in our estimation, better adapted for this purpose, in any part of the country, where this tree will thrive. Apprehensions have been expressed, by some, that, from its rapid growth, it will soon become too large for live hedges, which, it is thought will not endure for a great length of time. This, however, remains yet to be proved. We have no doubt, in our own minds, that, if a judicious system be pursued, in trimming and heading down, they will serve an excellent purpose for twenty, and perhaps thirty years; for there are hedges of this plant in the vicinity of Cincinnati, which are ten years old, and

have thus far proved perfectly hardy, very uniform, neat, and handsome in their appearance, and free from the attacks of insects or disease.

The Osage orange may readily be propagated by seeds, from which it will grow sufficiently large in three years to form a hedge. It succeeds best on land moderately rich, such, for instance, as will produce good Indian corn; but it will grow in almost any soil that is not too moist. The line of ground, intended for a hedge, should first be dug and well pulverized, say from 12 to 15 inches deep, and 2 feet wide, along the centre of which the plants may be set at a distance of one foot apart.

The seeds, before sowing, should be soaked in water, in a warm room, for four or five days; or they may be mixed with equal parts, by measure, of sand, and exposed a few weeks, in open boxes, to wintry weather, on the sunny side of a building, in order to freeze and thaw. It is preferable to sow them early in the spring, in a garden or nursery, where they will shortly germinate and form young plants. These should carefully be weeded or hoed during the first season's growth, and transplanted in the hedge line in the month of March or April of the following year.

CULTIVATION OF ONIONS.—No. 1.

As the common onion (*Allium cepa*), forms one of the principal crops of the kitchen garden and is somewhat extensively cultivated in the field for the supply of our home markets, as well as those of the West Indies and elsewhere, it is important to know what kinds are most profitable to raise, their adaptation to particular markets, and the best modes of cultivation. For it is a well-established fact, that its mild or strong qualities depend more on climate and cultivation than to any inherent property of the onion itself; as those grown in Spain, Portugal, Madeira, Teneriffe, &c., are more benignant in their

nature than those cultivated either in the northern parts of Europe or of the United States.

Furthermore, the inhabitants of warmer climates, as in the tropics, who generally require their meats and soups highly seasoned, prefer onions of the strongest flavor; while those of the more temperate and colder regions, who more frequently eat them served up with melted butter or white sauce, seek the opposite property, mild and sweet. Hence the importance of selecting varieties for cultivation, that are best suited for any particular market or use.

Varieties—There are a multitude of varieties or sorts of onions in cultivation, among which, the following are recommended:—

1. *Blood-Red Strasburg*, or *Weathersfield*, a very hardy variety, of medium size, inclining to flat, valued for its long keeping and strong flavor. It is extensively cultivated in the eastern states for export to the West Indies and elsewhere.

2. *Large Yellow Strasburg*, of an oval form, inclining to flat, and of a strong flavor. It is hardy, productive, and keeps well, on which account it is highly prized.

3. *Silver-Skinned*, or *New England White*, a flat variety, of medium size, esteemed for its delicate flavor, and is much used for pickling. This onion usually sells in the New York markets for prices one fourth higher than any other variety.

4. *White Spanish, Portugal*, or *Lisbon*—very large, globular in form, mild in flavor, but will not keep well beyond the end of autumn or early winter.

There are several other kinds of onions more or less cultivated, but none of them, in point of profit, will excel those described above.

The Welsh onion (*Allium fistulosum*), is said to be a native of Siberia, and is most hardy in its nature. This species is a perennial, forming little or no bulb, dying down to the root, in winter, and putting forth new stalks every spring; whereas, all other cultivated sorts never endure beyond the summer of the second year. The Welsh onion is usually propagated by seeds, sown in September, and when grown, are used as a salad early the next spring.

The potato, or under-ground onion (*Allium tuberosum*), which produces no seeds in a cultivated state, is a most hardy, prolific species, very mild in its quality, and possesses the advantage of perfectly ripening its roots several weeks earlier than any other kind. It is propagated by planting the bulbs, in March or April, in rows eighteen inches apart, three inches below the surface, and six inches asunder, from bulb to bulb. The plants may be weeded and earthed up, as with potatoes, as they continue to grow; and, in the course of the summer, a quantity of new bulbs will be formed on each parent root, which may be used like those of the common kinds.

The tree, or bulb-topped onion (*Allium proliferum*), is said to have originated in Canada, where the climate is too cold for onions to flower and seed. The root, or bulb, when planted in the ground, throws up a stalk similar to that of the common onion the second season of its growth; but, instead of bearing seeds, it produces numerous small bulbs, in or among the umbel of flowers, which, if planted in the spring, will increase in size, and form toler-

ably good onions, while the stalk supplies a succession of bulbs for the next year's planting.

General Culture.—The soil most congenial to the growth of the onion, in general, is a deep, mel-low loam, resting on a dry bottom; and however rich it may be, it requires more or less manure for every crop. Although this vegetable is an exception in the rotation of crops, and the same ground has been known annually to produce abundantly for forty or fifty years, it is deemed preferable, in cropping the kitchen garden, to succeed celery, as the soil in that state is thoroughly pulverized, and usually contains a considerable quantity of unspent manure. But even in this case, it is necessary to add a liberal coat of the best fermented dung.

Previous to sowing, the ground should be well prepared by digging or plowing, and afterwards thoroughly levelled with a harrow or rake. A liberal dressing of very old barn-yard, or pig-sty manure, should then be slightly worked in, and the ground raked even and compressed by a roller, or patted with a hoe; for, experience has shown, that the more the onion grows above the surface, the finer and better it will keep. The earlier this work is done in the spring, the better it will be for the crop; and in no case should the sowing be delayed beyond the middle of April or the first of May.

The ground being thus prepared, may next be divided into beds four feet wide, with one-foot alleys between, for garden culture, and then marked off in shallow drills, from seven to twelve inches apart, into which the seed may be thinly sown (say, half an inch apart), and firmly trodden in with the foot. Next, a small quantity of fine earth, from the alleys, may be sprinkled over the seed, and finally evened with a coarse-toothed rake. For field culture, where many acres are to be seeded at one time, these beds may be evenly sown broad-cast, but not too thick, after which, they should be compressed by a roller, or trodden with the feet, and then slightly covered with fine earth from the alleys and levelled with a rake. In raking the beds, the teeth of the implement should be set wider apart than usual, otherwise the seed will be drawn into heaps and cause irregularity in the crop.

In ordinary culture, four or five pounds of seed are sufficient to sow an acre; but, in raising onions for pickling, double of these quantities will be required, as it is desirable that the bulbs may be small, and consequently they may grow at less distances apart. In the selection of seed, it is of the utmost importance to employ that which is no more than two years old, otherwise, often not more than one seed in fifty will come up. Its quality may easily be tested by forcing a little of it in a hot bed, or in warm water, a day or two before it is to be used; and if a small, white point should then appear, the seed may be pronounced as good.

PRUNING TREES.—It is now a well-established truth, that, when a young tree is in a vigorous state of growth, and the wood full of sap, just previous to its having made any hard wood (say in June or July, in most parts of the United States), any branch may be taken off, without injury. Therefore, at this stage of existence of the tree, pruning may be safely performed, giving its top that shape it is intended to assume when it attains its full size.

ADVANTAGES AND DISADVANTAGES OF SUBSOIL AND TRENCH PLOWING.

SUBSOILING, we are to understand, consists of loosening the ground below the depth it is ordinarily disturbed by common tillage. A heavy plow is first run along the field, say from six to ten inches deep, and is then followed, in the bottom of the same furrow, by a subsoil plow, which has no mould board, stirring the soil to a depth of six or eight inches more.

The reasons generally stated in favor of this system, by its advocates, are the following:—1st. That where there are drains in a field, subsoil plowing facilitates the escape of water into these drains. 2d. It deepens the actual thickness or amount of soil to the extent of from eight to sixteen inches; thereby affording double nourishment to the crops. 3d. It increases the heat or temperature by lessening evaporation. 4th. In dry summers, when crops are parched, the increased thickness of soil, which causes the roots to penetrate to a greater depth than usual, enables the crop to withstand the drought.

The chief objections urged against subsoiling are, 1st. The extra labor of men and horses. 2d. From the tardiness of the operation, it drives out of season the other work of the farm. 3d. On light, leachy soils, it is attended with little or no benefit, but on the contrary, is injurious in causing rains and liquid manure to descend more readily beyond the reach of the roots of the plants.

By *trench plowing*, the soil is cast up to the surface, and is either benefitted or injured thereby, according to the nature of its constituents and the manner in which it is trenched, after it is turned up. For instance, there is often contained in subsoils, a considerable proportion of matter, called by chemists, *protoxide of iron*, which is readily dissolved by rain water, and in that state, is poisonous to plants, if directly applied to their roots; but if these subsoils are opened to the influences of the atmosphere, this substance will gradually be converted into *peroxide of iron* (common red iron rust), and may be applied to crops without injury. It often happens, also, that some subsoils embrace fragments of rocks containing sulphur combined with iron (sulphuret of iron), which, on exposure to the atmosphere, is changed into green vitriol or common copperas (sulphate of iron), and in that state is quite as unfit for the food of plants as the protoxide of iron. Both of the two last-named salts, however, when brought into contact with lime, or any of the alkaline carbonates, are easily decomposed, changing the iron into a peroxide, which is not only harmless to plants, but in some cases beneficial to them. The sulphuric acid, contained in the copperas, also, at once combines, in definite proportions, with the lime, or other alkaline bases, spread upon the soil, and forms in one case, sulphate of lime (gypsum or plaster), and in others, sulphates of soda, potash, &c., according to the nature of the alkaline carbonate applied, the fertilizing influences of which are too well known to require repetition here. Hence, the good effects which often occur from abundant top-dressings with air-slacked lime, or of wood ashes, carbonates of soda, potash, &c., on land that has been trenched or deeply plowed.

If a soil be sandy, gravelly, or light, with little or

no sod on its surface, or vegetable matter beneath, no particular advantage will result from trenching, unless there be plowed under a liberal supply of coarse barn-yard manure—green clover, vetches, buckwheat, or weeds—dry leaves, grass, stubble, straw, or some compost rich in animal and vegetable salts; and then it will often become necessary to add a slight top dressing of guano, poudrette, or some stimulating manure, in order to give vigor to the infant plants. But if the upper soil be deep, and is interwoven with the roots of grass, weeds, &c., it may be turned under to a depth of ten inches to a foot; and so long as this vegetable matter remains in the soil, it will serve as a proper food for other plants. In short, if due attention be paid to the application of plaster, lime, ashes, vegetable and animal manures, if the ground be hot and sandy, trench plowing will make it cool and moist; and if it be strong and clayey, it will open it and keep it loose, rich, and mellow.

For an interesting article on pulverization of the soil, see page 196 of our sixth volume.

AGRICULTURE OF THE CHINESE.—No. 4.

Hemp, or Má, and Other Fibrous Productions.—

Among the fibre-bearing plants of China, there is a species of *urtica* [má], both wild and cultivated, that grows from one to two yards in height, and produces a strong fibre, in the bark, which is prepared by the natives, and sold for the purpose of making cable and ropes. (a)

Another strong fibre is obtained from the bracts of a palm tree, cultivated on the hill sides of Chusan, as well as in similar situations all over the province of Chekiang. These articles answer the purposes to which they are applied extremely well; but the ropes made from the Manila hemp is of much greater strength and durability. (b) From the bracts of this same palm, the natives of the north make what they call a *so-e*, or garment of leaves, and a hat of the same material, which they put on during rainy weather; and although they look comical enough in the dress, still it is an excellent protection from wind and rain. In the south of China the *so-e* is made from the leaves of the bamboo and other broad-leaved grasses.

(a) The *má*, if we can rely upon the account of Tingqua's "Outlines," illustrating the cultivation of hemp and the manufacture of grass cloth, as published in a late number of the Chinese Repository, may be found in almost every description of fabric—in the largest cables of the junks, and even in the choicest textures of clothing, worn by the luxurious classes. Like silk, it is an article of universal consumption with the Chinese.

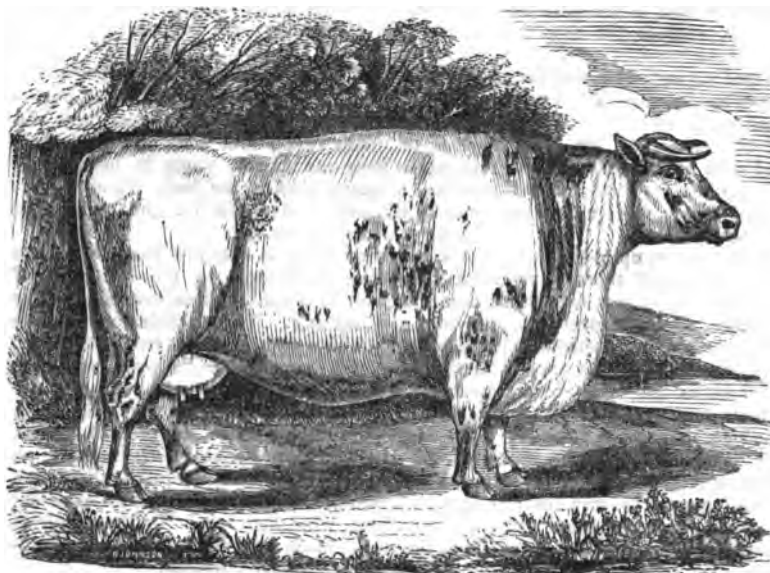
This plant is represented as an annual, of easy production, sown in February, and gathered in August. It grows on dry, hilly soil, like tea, in every variety of climate, all over the empire, and may be cultivated in a similar manner as the common hemp is with us. The seed is carefully collected, dried in the sun, and put up closely in jars, in order to preserve it from injury, in which state, it is probable it might be brought to this country, without losing its power of germination. We would, therefore, recommend that some of our agricultural friends, who are engaged in the China trade, procure a small

parcel of this seed for experiment in the United States.

(b) The Manilla hemp is the product of a species of *musa*, highly prized and in great demand amongst all the shipping of the East Indies, for cables and ropes. The Philippine Islands, also, produce a vegetable called "pine-apple plant," the fibre of which, is manufactured and embroidered into a beautiful cloth, generally known in the shops of the natives by the name of *piña*. This plant would doubtless grow in some of our southern states, and is worthy of a trial.

THE SHORT-HORN COW—ELLEN KIRBY.

THE following cut was politely furnished us by Mr. Sands, of the American Farmer. It is the portrait of the Short-Horn cow, Ellen Kirby, the property of Col. H. Capron, of Laurel Factory, Maryland. It was bred by James Gowen, Esq., of Pennsylvania.



THE SHORT-HORN COW—ELLEN KIRBY.—FIG. 25.

Col. Capron is one of the most spirited farmers and stock breeders in Maryland; and he writes as well as he farms. He has recently contributed a series of excellent articles to the American Farmer, which we have perused with much interest, as well as with profit. We hope, as he continues to drive the plow, that he will not forget to wield his pen.

PROPER TIME FOR SLAUGHTERING ANIMALS.—It has lately been discovered, by a French chemist, that the flesh of animals, which are killed in the latter part of the night, will keep much longer, without salting, than it will when they are killed in the day time. This proves that the flesh is better fitted for keeping, when the life and blood are taken from the animal, at the time its temperature is the lowest, and the respiration the least active. Hence the reason that the flesh from animals, that have been highly heated, or hard driven, will scarcely keep at all.

SHELL AND CORAL SANDS FOR MANURE.

A GENTLEMAN well acquainted with the shores of Florida and of the Bahama Islands, informs us, that in many places, they are composed entirely of the fragments of broken, or comminuted coral, shells, infusoria, &c., the supply of which, is inexhaustible, and would subserve the purpose of manuring all the cultivated lands in the Atlantic states, for thousands of years. The cost of procuring this sand, and delivering it at any of our seaports, south of Boston or New York, he thinks would not exceed \$3 or \$4 the hundred bushels; and if it were brought here, as ballast, from Key West, or Nassau, New Providence, it could be afforded for much less. This is a subject, we think, worthy of investigation, and recommend that experiments be tried, on a limited scale, by our agriculturists, both at the north and at the south.

It is well known that shell sand has been used for agricultural purposes, in the north of Ireland, for one hundred and fifty years; and for nearly the same length of time, it has been carried across to the opposite coast of Galloway, in Scotland, with the view of improving the land there. In Brittany, on the coast of France, it is applied in large quantities to the clayey soils and to marshy grass lands with much advantage, and is carried far inland for similar purposes. The quantity applied to each acre varies from 10 to 15 tons.

On the coast of Normandy, there is a kind of mealy-looking sea sand, composed of minute crystals of carbo-

nate of lime, of broken limbs and claws of small crustaceous animals, and of the shells or sheaths of numberless infusoria, which is extensively used on light sandy soils with good results.

A sample of shell sand, taken from the island of Isea, on the west coast of Scotland, and examined by Professor Johnston, consisted of the following ingredients:—

Alumina and oxide of iron,	65.7
Carbonate of lime,	34.0
Phosphate of lime,	0.3
	100.0

Coral sand, which is similar in its nature to shell sand, is preferred by the farmer in a fresh state, probably, because it contains both more saline and more animal matter than after it has been exposed for some time to the air. Payen and Boussingault, it will be recollected, ascribe the relative manuring

powers of different substances when applied to land, by the quantity of ammonia or nitrogen, which they severally contain, and thus, compared with farm-yard manure, attribute to shell and coral sands the following relative values:—

100 lbs. of farm-yard manure, contains	
“ of nitrogen,	0.40 lb.
“ of coral sand (merl), “ . . .	0.51 “
“ of shell sand (trez), “ . . .	0.13 “

That is to say, so far as the action of these substances is dependent upon the nitrogen they contain, fresh coral sand is nearly one third more valuable than an equal weight of farm-yard manure, while the shell sand is only equal in virtue to one third of its weight of the same kind of manure.

A sample of fine infusorial sand, which is highly prized by the local farmers on the coast of Normandy, as analyzed by Professor Johnston, consisted of the following ingredients:—

Organic matter,	5.06
Chloride of sodium (common salt), . . .	1.01
Gypsum (plaster),	0.32
Chloride of calcium,	0.73
Magnesia,	trace.
Carbonate of lime,	43.50
Alumina,	0.17
Oxide of iron,	1.20
Oxide of manganese,	trace.
Insoluble silicious matter,	47.69

99.68

From this analysis, Professor Johnston thinks that the value of this mealy sand does not depend solely upon the lime (43½ per cent.) it contains, but is derived, in some measure, also, from the 5 per cent. of organic matter, and the 2 per cent. of soluble salts, which are present in it. It is remarkable, also, for containing nearly half its weight (48 per cent.) of silicious matter in the state of an exceedingly fine powder. Its value, therefore, over the coarser shell sand, consists in its organic matter and soluble salts, and in the minute state of division in which its particles are found. This fine powdery state enables it to be mixed more minutely with a clayey soil; causes an equal weight to go further; and prevents it from opening and rendering still lighter the more sandy soils, in the manner coarse fragments of shells would be apt to do. In Normandy, it is generally applied in the form of compost, and is extensively mixed with farm-yard manure, which it is said greatly to improve.

PREMIUM LIST OF THE NEW YORK STATE AGRICULTURAL SOCIETY.—As this list published at length would occupy about eight pages of the *Agriculturist*, we forbear to insert it. About \$6,500 will be awarded at the coming show for premiums. This is nearly twice as much as has ever before been given. The premiums for foreign stock, &c., are also very liberal. We hope this will encourage the friends of agriculture in the neighboring states, and in Canada, to come out with anything they may think worthy of public show. Those who wish to see the list for the coming year, in full, can have it by addressing B. P. Johnson, Esq., Secretary of the Society, at Albany. The show is to take place at Buffalo, in September. Great preparations are making for it, and we have no doubt it will be the largest

and most interesting yet held. All the hotel keepers (thirty-four in number), have entered into an agreement not to charge more than from 75 cents to \$2 per day, for board and lodging.

LONG ISLAND LANDS.—No. 3.

By referring to page 347, of our sixth volume, it will be seen, that, from the analysis given of a specimen of soil taken from the vicinity of Hicksville, near the Long Island Railroad, the lands in that region are deficient in inorganic matter and alkalies or alkaline earths; and that the nature of the great mass of soil of this part of the island, from the surface downwards, is composed of so large an amount of washed sand and loose pebbles, that a large proportion of all soluble manures sinks below the reach of the roots of plants, in a very short period, rendering it difficult for the farmer to increase the fertility of this land without frequent applications of manure.

The question now arises, whether these lands, including the tract of country between Jamaica and River Head, can profitably be cultivated, and if so, by what means this object can be attained, and what class of crops are to be grown. This subject has been well investigated, the lands having been personally examined, and numerous inquiries made of those most familiar with their history and present condition, and have been eye witnesses of the most important experiments that have been tried, with the view of increasing their fertility. With these facts before us, we have come to the conclusion that these lands cannot be made permanently profitable, without a sufficient outlay for clay, marl, and several kinds of manure, to fit them for market gardens, apple orchards, or other fruits. In order to effect this, the following plans are suggested not with the intention of experimenting on an extensive scale, but with the object of trying a few acres at first, and if these prove successful, it is a matter that will for ever after take care of itself.

These lands may be classified under two general heads; namely, *praries*, or those nearly or quite destitute of bushes or wood, as Hempstead Plain; and *oak barrens*, as those situated between Farmingdale and River Head. As these lands will require somewhat different management—the first two years, it is deemed necessary to treat of them separately.

1. *Prarie Land.*—Wherever the surface of these lands consists of a good sod of matted bushes or the roots of grass, the first year, a fair crop of potatoes may be raised, with no other outlay for manure than 40 to 70 bushels of leached ashes per acre, at a cost of \$5 to \$9, or a corresponding value of unleached ashes mixed with oyster-shell lime. The ground may be plowed early in the spring and planted with potatoes, the usual way, with the hills three feet apart, applying 40 bushels of leached ashes to the acre, or half a pint to each hill. In the course of the season, they should be cultivated, earthed up, and harvested, as soon as they are ripe. Or, the ancient mode may be adopted of turning up four-furrow ridges, lying back to back, 3 feet, 4 inches apart, from centre to centre, and planting very small potato sets, 9 inches asunder, in the middle of each ridge. In the latter case, 70 bushels of leached ashes may be

applied to the acre or about one gill to each set. After this, the potatoes may be hoed, earthed up, and harvested the usual way. By either of these modes, a crop of excellent potatoes can be raised, which, if sold at ordinary prices, in the New York markets, will be attended with some profit.

Should the potatoes be of an early sort, and dug by the end of July, a bushel of buckwheat may be sown on the same ground, which should be plowed under, as soon as it is in full flower. In this condition, the ground should lie until the next spring, when it may be planted with Indian corn, three feet apart between the rows and two feet between the hills. In order to give the corn an early start, 114 bushels of well-fermented stable or barn-yard manure should be applied to the acre (about a pint to each hill), or an equal amount, in value, of guano or poudrette. Four kernels may at first be planted in a hill, and the number of spires in each may be reduced to three, at the time of weeding or first hoeing, which may neatly be done without cultivator or plow. In July, at the time of the second hoeing, a cultivator, or double mould-board plow, may be run between the rows, and a fish (7,365 moss-bunkers to an acre), dropped in the furrow midway between each pair of hills. The surface of the soil should next be slightly moved and levelled with the hoe, covering over the fish to a depth of three or four inches, without forming any mould or hill. By these means, a good crop of corn may be raised, with a tolerably fair profit.

The land, by the time the corn crop is removed, will have been sufficiently broken and subdued, to be prepared for more permanent use. The next step we would recommend, is, to spread upon the surface of each acre, late in autumn or early in winter of the same year, 2,000 bushels of marl or strong clay, where it should remain exposed, during the winter, to the action of the frost. Early in the spring of the third year, this marl or clay should be plowed under, while moist or wet, to a depth of about a foot, in order to form a permanent bed for retaining moisture and the solvent parts of manures. This having been done, with the addition of a liberal dressing of guano, or stable manure, the ground will have been in a suitable condition for planting fruit trees, the cultivation of garden vegetables, or for the rotation of general crops.

2. Oak Barrens.—In subduing and enriching this class of lands, a very different course must be pursued, the first season, from that recommended to be adopted in renovating the prairies. For, as little or no sod exists on their surface, and only a scanty portion of vegetable matter of any kind, except bushes, the potato crop had better be dispensed with, and measures taken to produce a growth of buckwheat, to be plowed under, as soon as it is in flower, preparatory to a crop of Indian corn the second year.

Any time previous to the first of July, the bushes may be mown, or grubbed up close to the ground, chopped fine, and collected into small heaps, in order to dry. Towards the latter end of that month, a day or two before sowing the buckwheat, the ground may be broken up with a four or six-ox team, plowing under all the leaves and young sprouts that may exist on the surface at the time; and, when

five or six furrows have been turned up, the dry brush wood may be compactly piled in small heaps, on the newly-plowed ground, and set on fire. As soon as they become well ignited, these heaps may gradually be covered with earth, beginning at the bottom, and closing at the top, leaving one or more air holes near the base, according to the state of the wind, in order to keep up combustion. By these means, the brush wood will smoulder away, and in due time, will be converted into ashes and charcoal, which may be evenly spread on the surface of the field, at the sowing of the seed, to enrich the soil. If the labor of covering the brush wood with earth, is thought to be too great, it may be burned in the open air (although evidently at a great loss), scattering what ashes remain over the ground for the benefit of the crop.

In burning over thin, gravelly, or sandy soils, containing much vegetable matter, great precaution should be used, as it often destroys their staple by the operation, and dissipates a large proportion of their fertilizing substance, in the form of gas or smoke, into the air. The numerous fires which have spread over these Long Island lands, from time to time, depriving them of the principal part of their humus or vegetable mould, is doubtless the principal cause of their present infertility. All such soils, therefore, should never be burnt over without well weighing the benefits or evils likely to arise therefrom. In general, on thin, gravelly, or sandy soils, the evils or disadvantages will be found to preponderate.

The buckwheat being sown, as directed above, may be well plowed under as soon as it is in flower, for the benefit of the corn crop of the following year. Forever after this period, the treatment of these barrens may be precisely the same as that recommended for the plains, with the exception of scattering around each hill of corn, the second year, about a half pint of leached ashes (56 bushels per acre), at the time of hoeing.

A SKETCH OF CLINTONVILLE, N. J.

CLINTONVILLE is beautifully located, on elevated ground, on the west side of Elizabeth Creek, and contains several handsome dwellings. Other improvements are now in progress, among which is an institution for the higher branches of education, to be conducted by the Rev. Mr. Chapman, pastor of the Dutch Reformed Church, and when completed, will be a great acquisition to the neighborhood. Several retired citizens and others still engaged in business in the city of New York, have selected this place, or its vicinity, for their residences; which, on account of its healthy location, beautiful scenery, and easy access, renders it one of the most desirable situations within two hours' ride of that city. The soil, in this region, is good, and capable of producing fine crops of oats, corn, wheat, potatoes, &c.

The main route from Ohio and Pennsylvania, being through this village, droves of horses and cattle, are daily passing to New York, which, together with the numerous carriages and teams of every description, give life and animation to the place. The sweet sound of the "church-going bells" is frequently heard on Sabbath days and evenings. The various roads leading to numerous villages in every

direction make it a central point, and affords some of the pleasantest drives in the country. Its proximity to Elizabethtown, Springfield, North and South Orange, Bloomfield, Belleville, Newark, and many other places of note, makes it a very desirable location. A public square has been reserved in the centre of this village, which is intended to be improved and beautified.

Among the most prominent residences, at Clintonville, is the one recently purchased by Mr. Bailey, of New York, who is enlarging and adorning it with much taste, and the seats of Mr. Durand, Mr. Eadie, Mr. Sherman, Mr. Mann, Mr. Belcher, and others. Mr. Holyland, of New York, is building a very neat Gothic cottage on his farm at Camptown, on the east side of the creek.

In short, Clintonville possesses many advantages, embracing three churches, three schools, besides an academy, several stores, well stocked with goods, a post office, with a daily mail, and stages running to Newark twice a day. Its mild climate, healthy location, excellent water, beautiful scenery, pleasant drives, and accessibility to New York, render it a very desirable situation to such as wish to combine a residence in the country with business in the city. J. M.

Clintonville, N. J. March, 1848.

LETTERS FROM ABROAD.—No. 2.

Vintage Scene—Cultivation of the Grape.—For the last ten days, we have been slowly progressing on mule back over roads almost impassable, stopping here and there at the wine estates on the way, and watching with intense interest the operations of the vintage, and scenery beautiful in the extreme. The hill sides teemed with animation, by women, young girls, and boys, some of whom were gathering the rich clusters from their native stems; others were collecting them in large, high baskets or hampers, after the rotten and blighted fruit had been plucked off and thrown away; while long lines of hardy Galicians were bending under their burdens in carrying them down to the wine presses to be trodden and made into wine. The merry song of these laborers, as they kept time to their work, was heard to resound from valley to hill, and every mountain sent forth the same joyous strains.

Varieties of Grape.—Of the vines most renowned for the production of wine, in the Upper Douro, there are only about a dozen varieties, the characters of which may be noted as follows:—

1. *Mourisco preto*, a vigorous vine, bearing a very black grape, of early maturity, and producing a fair wine.

2. *Museto preto*, resembling the above, but not so early in maturing its fruit.

3. *Touriga*—fruit black, producing a highly colored wine.

4. *Tinta Francisca*, having fruit resembling that of the *Touriga*, and is prized for its wine.

5. *Tinta da Minha*—fruit black—wine of fair repute.

6. *Tinto cão*,—fruit dark-colored, producing a tolerably good wine, which improves with age.

7. *Bastardo*—fruit dark, producing a good, light wine, slightly colored, and of an agreeable, though peculiar flavor.

8. *Donzelinho do castello*—fruit dark, producing a delicate, slightly colored wine of high repute.

9. *Malvazia grossa*—fruit large, white, and more valued for the table than for wine.

10. *Malvazia fina*—fruit white, smaller than that of the preceding, but of a more delicate flavor.

11. *Muscatel*—identical with the white Muscat of France.

12. *Gouveio*—fruit white, with a very sweet juice, and producing a wine of great renown.

Soil and Aspect.—The soil best calculated to produce the richest wines, let it be remembered, consists of the broken fragments of the reddish-brown limestone or clay slate, in which this region abounds; and experience has shown that the grapes are better flavored, when grown on the southern declivities of the hills, or in low sheltered spots facing the south, where the vines can receive the greatest heat from the sun; for those grown on the northerly sides of the mountains, or near their summits, are invariably watery, and produce a thinner and lighter wine.

Propagation.—The vineyards in this country, it will be recollected, are formed, at great expense, in terraces cut in the sides of the hills, rising one above another from the margin of the Douro, to an elevation of several hundred feet. In autumn, after the vintage is over, and the soil of the terraces has been sufficiently pulverized or stirred, healthful and vigorous cuttings are taken from the old vines, from a foot to eighteen inches in length, and planted nearly in a horizontal position, with their butt ends covered with earth, where they are suffered to remain until they have taken root. In the summer of the following year, these cuttings, or young vines, are transplanted two feet deep in the ground, at a distance of about a yard apart; and in from four to six years, with proper attention, they arrive at full bearing. Sometimes, however, where there are intervals occurring, in consequence of the loss of a vine, two or more long shoots of the nearest stock are bent down into holes dug for the purpose of receiving them, and then covered with earth in such a manner as to leave their tips above the surface. These, in due time, take root, are separated from the parent stem, grow, and often bear fruit the next year.

Management.—At the termination of the vintage, the vines are regularly pruned, by removing all the young shoots from the last year's wood, except one to each branch, which latter is reserved for bearing fruit the following year—care being observed to get rid of all old wood that can be spared by shortening back to the spurs preceding from the main stem. After this, the ground is trenched between the vines, incorporating the soil about their roots, together with the fallen leaves and fragments of the shoots; and previous to the first of January, the soil is again stirred around the vines, one or more times, and all weeds, insects, etc., which may appear, are cut up or destroyed. By this treatment, the vines put forth their leaves, the grapes form and gradually swell to ripeness, with blooming hues, and but little more attention is required, till the long-wished vintage arrives. F. R. S.

San João da Pesqueira,
Upper Douro, Sept. 27th, 1847. }

LETTERS OF R. L. ALLEN.—No. 3.

THE banks of the Ohio exhibit the same bold and attractive scenery which characterizes those of the Monongahela. There is, however, this difference. The elevated rocky heights, which seem almost to overhang the latter, frequently affording scarcely a by-path along the shore, recede from the margin of the former, leaving a wide alluvial bed on either side, beyond which the hills rear their gracefully rounded or precipitous crests, still almost everywhere covered by the original forests. These, with the herbage on the plains below, had been stricken by the autumnal frosts; and in the absence of the cheerful hue of the evergreens which line the more northern streams, gave a somewhat sombre aspect to the scenery. When clad in the luxuriant foliage of summer, I can imagine few views of the same extent, that afford more interest and beauty. For nearly 800 miles, through the perpetual windings of the Ohio, scarcely a single view can be found that would not make an attractive picture.

If shorn of its forests, more densely populated, and thoroughly cultivated, with numerous vineyards up its steep hill sides, with here and there an old castle occupying its almost inaccessible heights, the banks of the Ohio would resemble those of the Rhine. The castles and their feudal oppressors, I trust we may never see; but the cultivation of the vine is destined to be much more extensive here than it ever was or ever can be on the banks of Germany's famed river. Many vineyards are now planted on the Ohio, and the soil and climate are found suited to the production of the grape. Its success is now placed beyond a doubt. The perseverance and skill already enlisted in its cultivation will eventually enable the vine growers of Ohio to supply the Union with its wine and winter grapes. I have full confidence in the future application of chemical principles to the preservation of this delicious fruit. This will furnish us a bountiful supply for months after its harvest, as a substitute for the insipid foreign grape which now graces the desert, rather as a luxury to the eye than to the palate. I have seen many specimens of wine from the native vines, which, though generally differing in character from most of the imported, are rich in flavor, and yield the luscious odor and taste peculiar to that of the well-ripened foreign grape. When connected railroads shall have crossed the Alleghanies, and brought this fertile valley into close proximity, with the sea board—which they will soon do—the markets of the Atlantic cities will be as fully and as regularly supplied with luscious grapes as they now are with the fresh milk and cream carried to them from a hundred miles in the interior.

We reached Cincinnati in one of the well-conducted packet boats which run between this place and Pittsburg, in about forty hours. Here all was activity and bustle. Success had followed the last year's efforts of the merchant, the manufacturer, the artisan, and the farmer. Famine abroad, and war at home, had created a demand for the products and energies of all, and crowned each with prosperity. The consequences were evident in the lengthening streets, the new and massive buildings, and the more than Herculean excavations of the surrounding hills, which everywhere met the eye. The site

occupied by this city is a segment of successive table lands (originally requiring but little grading), of which the river forms the arc, and a cordon of high precipitous hills, the chord. The table lands are already nearly covered with buildings, and those gigantic hills have recently been attacked with a vigor that indicates their speedy demolition. There is a spirit characterizing many sections of our country, that amuses while it challenges our admiration. Fifty years ago, the ground now occupied by Cincinnati was a wilderness. Five years ago, Mount Adams, then remote from the city, was solemnly dedicated to science, and set apart as a permanent retreat for the astronomers of the western hemisphere. A beautiful observatory crowns its summit and brings the star gazers nearer the object of their research. I climbed its lofty heights, and judge of my surprise to find a recent excavation of 50 feet, directly in front of this consecrated spot. The foundations are already crumbling beneath the blows of the sappers, and these are temporarily sustained only by massive buttresses of mason work. Streets are laid out, and shops and shanties encircle it. What was recently a worthless and almost inaccessible hill, yields a harvest of lots worth \$40 per front foot! The *dollar* has encountered science, and it needs no prophet to foretell the issue of the contest; and like the Indians and Mexicans, she must yield, and seek a temporary retreat beyond the immediate convenience of her antagonist.

What a vision is opened from the summit of this hill! What profusion of nature and art! A population of 100,000* lie at your feet, in the possession of wealth, luxury, and intelligence, far beyond the average enjoyed by civilized nations. They are surrounded by wealthy farmers, mechanics, merchants, and professional men, whose homes reach beyond the great northern lakes, beyond the Mississippi, and to the very shores of the Mexican gulf. And this whole region, but half a century since, was an almost unbroken wilderness. From the comparatively ancient Fort Le Boeuf, boats may descend through French Creek, from 1,000 miles above. They can wheel on and ascend the Tennessee, 1,000 miles, through the midst of three magnificent states; or they may coast along the borders of two others, 1,000 miles more by the Wabash. They may pass round into the Mississippi, and penetrate nearly to its source, 2,000 miles more; or turn into the Illinois or Wisconsin, and reach nearly the same distance. Returning, they may ascend the Missouri till the snow-clad heights of the Rocky Mountains meet their view; and farther down the Arkansas, the Red River, the Washita, the Yazoo, and the innumerable bayous below, afford an almost interminable line of water communication. And through all these extended avenues, the resources of the country, in its soil and minerals, its elements of wealth, and capacity for ministering to the comfort and prosperity of its inhabitants, are unsurpassed.

Art asks you to observe her achievements. She points out her thousands of buildings, all well furnished with the objects for which they were designed; her numerous steamboats moored at her wharves; her miles of manufactories stretched

* This is about the population of Cincinnati and its suburbs; and the thriving villages of Newport and Covington on the opposite side of the river.

along the shore and climbing the hills in her rear. There is the Whitewater Canal, leading into Indiana; here the Miami, reaching to Toledo on the northern lakes. On the opposite side, the railroad extending to Sandusky, and at a lower point on the same waters, it is soon destined to connect with Columbus and Cleveland; while another will ere long reach the tide waters of the Atlantic. Fine McAdam roads radiate to every important point in the interior; and over all, from east, north, south, and west, flashes the electric telegraph, with intelligence from every quarter of the globe. Such are the advantages, and such the achievements of American freemen, for a single half century.

Although heretofore, and probably destined for a long time to remain, a large element in the prosperity of Cincinnati, there is one feature which detracts much from the interest that would otherwise attach to it. It is the Porkopolis, not only of America, but of the world. No other place on its surface, ever witnessed the annual slaughter of so many of the "swinish multitude" as is here compressed within the limits of a few weeks. It is estimated that nearly 400,000 will yield up their greasy lives at this place the present year. It is the height of the packing season, and the streets are filled with their unwieldy forms, wending their weary steps to their last home. The air is redolent of their grunts and odors; and the tables groan beneath their spare ribs, their joints, their hams, their head cheese, souse, sausages, and sides. Every waggon you meet is loaded with them, piled up like ricks of hay; and every warehouse is crammed with these precious freights. I have seen piles of coffee and cotton, before at New Orleans and elsewhere; but the piles of dressed swine here far exceed (relatively) anything of the kind I have ever witnessed.

I called on our friend, and the friend of agriculture, Mr. Neff, who has recently turned his attention to beef packing. This is now second only to that of pork in importance. The introduction of the best breeds, and especially the Short Horns, has largely increased the value of cattle for packing. Although not fed to the extent I think they should be for the best interests of the farmer and the packer, they are highly improved from what they were but a few years since. In this career, no one has been more conspicuous than Mr. N., or has pursued the subject with more constancy, intelligence, and liberality. He has a farm in Illinois of 6,000 acres, where he annually fats from 1,000 to 2,000 head, which are brought to Cincinnati for packing. He considers \$400 to \$500 well expended in a good bull, whose services he is willing to bestow gratuitously for the purpose of getting the progeny, when ready for market. These, he thinks as ripe at three, as the common cattle of the country are at five or six years old. A handsome fortune has attended his efforts. It is to be hoped that others engaged in the rearing of stock, will follow, with equal perseverance and success, so laudable an example.

Cincinnati, Nov. 24th, 1847.

THEORY should not be adopted, except as a mere formula for the expression of existing knowledge.

THE GRAPE CULTURE AND WINE MAKING IN OHIO.

In the January number of the *Agriculturist*, I notice a communication from Mr. S. B. Parsons, of Flushing, relating to the grape. It is an interesting article, and gave me information on a subject in which I have a deep interest, particularly the qualities of the 101 American new seedling grapes advertised for sale, and all represented to be of unrivalled excellence. Our horticultural societies, as at present organized, devote their money and time to the exhibition of flowers, and granting premiums for them, and where a new seedling fruit is introduced by a member, it is often praised too highly. Much more good, I think, would result, if premiums were offered for new seedling fruits of superior excellence, and a committee were to report on their quality. I have been anxious to obtain all the new varieties of native grapes, in order to test their quality, both for the table and for wine; but, like Mr. Parsons, I have found so many worthless, which have been highly praised even by our horticultural societies and magazines, that I have been deterred from it.

Mr. Parsons deems the Catawba and Isabella, the only good native grapes. I cannot concur with him in this opinion, at least in our latitude, as regards the qualities of a few kinds, claimed to be natives. The Isabella, we deem an inferior grape, with us, both for the table and for wine. It succeeds better with you. The Catawba will be worth millions to the nation though we have some grapes that are hardy, and called natives, that would generally be preferred for the table. The Herbemont, Ohio, Lenoir, Missouri, and Elsanborough, are of this character. The fruit of each kind is small, and free from the hard pulp common to most American grapes, but generally equal to the foreign, Miller's Burgundy, for the table, and the bunches of some of them much larger. The origin of the Herbemont and Lenoir, is not certainly known, but both are as hardy with us as the Isabella. These, by some cultivators are considered the same grape. There is a marked difference, however, in the leaf and wood. The fruit of the Herbemont, is somewhat larger than the Lenoir, and the bunch less compact. I am inclined to the opinion, that the Ohio grape is the same as the highly-prized Jack grape, of Mississippi. I have had bunches of this grape measure 10 inches in length. The Elsanborough, is believed to be a native of New Jersey, and I have but little knowledge of it. It is there said to be a good bearer. The few vines I have, do not bear well, but the quality is good. We have two or three other new grapes that promise well, but till we have further experience, I will not venture to recommend them. I do not believe the Ohio will succeed at the east. It does much better with us, in town, than at my vineyards, though hardy in all its locations. I now have the Jack and other native grapes from the Mississippi, but not in bearing. The Catawba ripens with us as early as the Isabella, and I have had a bunch of it at one of the vineyards, that weighed 24 ounces.

In a late letter, Mr. Buist speaks of Brown's variety of Catawba as superior. Is this a new variety? If Mr. Parsons has tried the grapes I have named, as succeeding here, and found them

not to answer in your region, he will do a favor by so saying to your horticulturists.

As soon as the season will permit, I shall send a sample of my champagne to your city and let some of your editors have a taste of it, even should it fare no better than some sent by a German manufacturer to one of your French editors, some months since. I doubt not he gave it all the credit it merited. I have full confidence that mine will stand the test with the best made in your city, from green corn and Newark cider. And when persons have become accustomed to the muscadine flavor of the Catawba, and we have had two or three years experience more, we shall compete successfully with the best imported. I find some difficulty in procuring bottles. In all the other cities, I can obtain them; but you are so near the region where the Harrison cider is made, which makes a champagne equal to any, except that made from green corn, that you have use for all your empty bottles. The champagne here, was made one month, and sold the next; and its maturity was forced by artificial heat. When properly made, it takes 18 months from the press before it is fit for use; requires deep, cool, dry cellars; and after keeping it as cool as possible, the average loss by breakage, before it is fit for sale, is from 10 to 15 per cent. This causes champagne wine always to be dear in France. The price in Paris is about the same as in your city. In two years from this time, if ever, we shall be able to make it of the best quality. In the new wine, as it comes from the press, under the management of different vine dressers, there is 100 per cent. difference in the value of the article. I shall select the best only, and spare no expense, as profit is not my object. N. LONGWORTH.

Cincinnati, January, 1848.

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.

I was highly interested with the articles upon this subject, which appeared in your last volume; and the beautiful illustrations accompanying them, conveyed more information to my mind than ten times the same amount of letter print. The present style of illustrating descriptions by pictures, is one of the great and good improvements of this improving age. But I beg this writer to bear in mind that in many of the rural towns of America, I might say nearly all of them, the building lots are laid out upon such a pinch-gut principle, there is so little room to spare, that fruit trees should always be looked to first. In fact, we often see some useless shade tree occupying a space that might have been occupied by an apple tree that would have furnished not only the luxury of good fruit, but the same amount of shade; and according to my notions of utility, more ornamental than that "great, strong, ugly thing, the Lombardy poplar," which affords neither food nor good fuel, and dead or alive, has no utility. (a) I cannot therefore, join in the recommendation of this tree, while our native forests afford so many others of equal beauty of form, and far more cleanly in their habits. If a tall spire-like tree is required to break the monotony of the line, there is the larch, the fir, or even the white birch, all better trees than that filthy worm breeder, the Lombardy poplar. (b)

One of the most unaccountable tastes in the world to me, is that of the man (and I have seen a thousand such), who can content himself to settle down in the middle of a western prairie, without a single tree or shrub, either fruiting or ornamental, around his dwelling, and sometimes hardly in sight. Such men may be honest, but they certainly lack refinement, and lose one of the enjoyments of life.

In reading the writer's description of the occidental plane (button wood or sycamore), reminded me of a remarkable instance of the rapid growth of that tree. Mr. Nathan Lord, who lived to near the age of ninety, on the banks of the Shetucket River, in the town of Franklin, Ct., when he was first married, carried four young trees of button wood, six miles, on horseback, and set them out near his house. While the planter of these trees was still a hale old man (I think 84 years old), one of them was uprooted in a gale, and he assisted to saw off five twelve-foot mill logs, clear of limbs, the butt of the largest of which was more than four feet in diameter, while the top cut was but a trifle smaller, though I cannot remember the exact size, or amount of lumber sawed from the tree.

Few, now, who see the banks of this river lined with this kind of tree for miles, are aware that all those venerable looking old button woods sprung from the four little sprouts transplanted by good old Deacon Lord, less than one hundred years ago.

SOLON ROBINSON.

*Lake Court House, Crown Point, Ia.,
February, 15th, 1848.*

(a) Our correspondent probably is not aware of the fact that this tree, in some parts of the country, is headed down to the lowermost limbs; and that a crop of excellent oven wood is obtained from the young shoots, which are cut and made into faggots in the spring of every second or third year. The timber of the trunk, too, when sufficiently large and sound, has been wrought into articles of household furniture of most exquisite beauty, surpassed by few, if any, of those made from our native woods.

(b) It might be questioned whether the larch, the white birch, or the fir, would serve for contrasting with masses of round-headed trees, of great height; as these trees, when they arrive at their full growth, in a great measure, lose the spiral shape of their tops, and consequently cannot mend the defect in the landscape, which the full-grown Lombardy poplar invariably supplies, whatever may be its age or size.

COMPARATIVE FACILITY OF DIGESTION.—The time required for a healthy person to digest boiled rice is one hour; sago an hour and forty-five minutes; tapioca and barley two hours; stale bread two hours; new bread three hours; boiled cabbage four hours; oysters two and a half hours; salmon four hours; Venison chops one and a half hours; mutton three hours; beef three hours; roast pork five and a quarter hours; raw eggs two hours; soft-boiled eggs eight hours; and hard boiled eggs three and a half hours.—Dr. Warder.

GUANO, it is stated, may be advantageously mixed with an equal weight of common salt, which, on being applied to land, will prove beneficial both to the crops and to the soil.

YANKEE FARMING.—No. 3.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—

The Mournful Soliloquies of Uncle Sim and Aunt Nabby over their Favorite Tom Turkey.—After the affair of the owl, and the unlucky killing of the favorite cock turkey, I must confess I never saw a more dejected couple than Mr. and Mrs. Doolittle. It was in vain that their children, myself and wife, endeavored to make them forget their loss and turn their thoughts to other subjects; all we could say or do, they would not be comforted, but continually recurred to the tragic event as something never to be forgotten. Every now and then, as he sat listlessly before the fire at evening, Uncle Sim could be heard to ejaculate, in a half-distracted tone, "Wal, I never felt so down hearted afore!—I'm clean done up. The great, nice feller! How he used to gobble, and strut, and puff! He was never afraid o' nothin', if he had a bin, he'd a fied away with the owl—the tarnal critter! What a dunder head, I couldn't a let Bill fire the old queen's arm instead o' myself. I guess ye'll never see me shoulder a gun agin. Oh! Tommy, Tommy, Tom—he know'd well he was the pride o' my heart;" and again he repeated, "how he would gobble, and strut, and puff!" Then he drew a long breath and sighed, cocked up one eye, and looked so hard into the fire with the other, that it seemed as if it were about to start from its socket.

As for Aunt Nabby, for a perfect wonder, she was more brief in her expressions, though not less tender or regretful. With her it was "orful suz—know'd anybody ever the like—ony think, now, that darlin' duck o' a turkey to fall dead!"—for she was too tender of the feelings of her husband to use the reproachful words, "to be shot!"—"and the pesky owl to fly clean off without a scratch! Oh! massy, Miss Teltrue," turning to my wife and wiping the tears from her eyes—"warn't he a grand, bold feller?—If he had'n't a bin, wouldn't he a fied too?" Thus repeating the comforting idea of her husband, that "Tom," as the turkey was familiarly called, died bravely.

Uncle Sim Starts with us in Search of Poultry for Molly.—I had been at first disposed to laugh at the mishap of my neighbor, and look upon it as a good joke; but when I found he was taking it so seriously, I held a council with my wife and Molly, and we agreed to get Uncle Sim out on an excursion as far as a neighboring seaport, with the ostensible view of purchasing the former some pullets to recruit her stock, though really hoping to find some buff turkies, which would take the place in the affections of her parents of those so recently lost. Uncle Sim was always glad of an opportunity to oblige Molly; but as his old mare was heavy with foal, and of course could not travel well, I volunteered to call for them the next morning, with my fast-trotting, sturdy Canadian and sleigh, to make the excursion.

Our Adventures thereupon.—We were off in good time, and had not proceeded far, before the keen, bracing air, the spirited action of my horse, the merry jingling of the bells, the smooth, rapid gliding of the sleigh and the varied objects we met

along the road, began to tell on the melancholy stupor of Uncle Sim, when we fortunately overtook a party of young people in half a dozen single sleighs, out on an excursion of pleasure. I soon found that it chafed my horse to follow them at their moderate pace, and accordingly reigned him out of the beaten path to pass them. Discovering this, the young men of the party all shouted to each other to whip up and prevent us. Instantly my high-spirited horse seized the bit firmly between his teeth, which left me no power over his mouth to hold him; and with a muscular force and rapidity of motion, that I did not dream he possessed, he covered us with a shower of snow from his heels; and in less time than I have written this sentence, he let go the bit, and we found him moving quietly again, though still rapidly, along the hard-trod snow path, considerably ahead of the discomfited young party.

After rubbing his eyes with astonishment, and brushing the snow from his person, Uncle Sim's face brightened up with a triumphant smile, which did Molly and myself a world of good to see, at the same time exclaiming, "Wal, Sargeant, if he didn't go then! Why, I thought he'd a buried us in the snow, and we should be comin' out o' t'other side o' the airth afore we knowed it. He'd a beat that 'ere feller's hoss now all to fits, that they tell on in Varmount, that was so smart, a streak o' lightnin' chased him all round the pasture three times and couldn't catch him. You'd best trade him to the telegraph men as sure to beat 'em!"

He was so tickled with this conceit that he could contain himself no longer, and burst into a loud laugh; and as the sleigh at that moment took a sudden lurch, he lost his balance, and would have pitched heels over head into a snow bank, had I not caught him by the cape of his overcoat and held him in. At this, he sobered down a little, but I gladly saw that his melancholy fit was broken, and for the rest of the way we kept up a cheerful and improving talk.

As for Molly, nestling in a low seat at our feet, and nearly hid from view by a large buffalo robe, her eyes sparkled like frosty diamonds floating in the buoyant air, declaring it was the first good sleigh ride she had had that winter, and seemed quite beside herself with delight.

Sisters Lizzy and Sally, and their Poultry.—The first place we stopped at was a large farmery, the property of two old maids, well known, the country over, as Sister Lizzy and Sister Sally. They were the sole survivors of a family of three sons and five daughters, not one of whom had married. As one died after another, they left their share of the estate to the survivors; and thus these two old ladies had become quite rich. But the addition of great wealth did not change their primitive habits, nor alter their singular notions. Here they lived as their ancestors had before them; the same house; the same furniture; and even the same dress—a high cap, short loose gown, thick, quilted petticoats, with large pockets dangling at each side, yarn stockings, and high-heeled, buckled shoes. But it would take three chapters, at least, to describe them, their stock, farm, and doings; so we will leave these matters to some more convenient period.

These ladies received us formally, yet politely; and when we stated that we had called with Molly to see if we could not purchase some pullets to replenish her stock of poultry, Sister Sally, the eldest, a fat, waddling old woman, took off her cap, put on a broad-brimmed old beaver hat—an heirloom, probably from her grandfather—and a great, long-tailed coat, garnished with bright metal buttons nearly twice the size of a dollar, and out she went with us to see the “biddies” as she called them.

Sister Sally was great on the power of fresh crosses on her stock of poultry; or as she termed the matter, “it was mighty good to change now and then, and get a new crowin’ bidy, and some new pullets; the breed would run out if we didn’t swap once in a while for new ones.” But she never asked herself what ought to be the kind and quality of these “new ones;” or whether they would be likely to improve or deteriorate the progeny of those she already possessed. Strange birds and from a distance, were the only requisites in her eyes. The result was, that we found a curious mixture of all kinds of breeds, producing the most incongruous offspring that one could imagine. There were double and single combs; top knots and clean heads; muffled chops and bare throats; big bodies and little bodies; bush tails and no tails at all; long legs and short ones; five toes, four toes, and some without toes. As for colors, there were white and black, buff and blue, red and brown, grizzly and grey, ring-streaked, speckled, and russet; in fact, every variety of light and shade that a kaleidoscope could gather together. The plumage was enough to make a ghost laugh. On some, the feathers lay smooth and naturally; on others, they pointed from the tail to the head; while on not a few, they stuck out at right angles to the body, like the quills of a porcupine. Several had hair instead of feathers; and these, Sister Sally said, “was sure to freeze to mortal death if left out arry cold night.” Some laid, and some, she “kinder guessed, would if they only had a chance when warm weather come; but wasn’t sartin” as to this probability. In truth, they were “fresh,” and a “change,” with a witness; and proved beyond the power of words, the strength of this foolish notion which seems inbred in most of my countrymen and countrywomen, and puts me out of all patience with them whenever I think of it.

Ideas upon Breeding.—How strange that in breeding we cannot take some model to work from as the sculptor does, and settle in our mind before we start what qualities we desire to produce; and then take those animals for propagation which possess these in the greatest perfection. I would just as soon think of throwing a handful of loose pebbles of various sizes at a two-inch auger hole fifty yards off, with the vain expectation that a majority of them would pass through it, as to suppose that I could get anything good from the breeding together of incongruous races.

But to resume. If Molly took a fancy to a single bird, Sister Sally would have it caught by a wonderfully clever little dog that followed at her heels, and after handling it with great affection, she would let it gently down to run again, with a “wal, I guess we can’t spare that bidy, no how; it’s got

yaller legs, and them’s what makes yaller skins, which our John says brings most in market.” The next had “too handsome a tail to sell this year;” another had “sich a poorly red rose of a comb;” while the last “laid such a sight o’ eggs as would mor’n fill a heaping peck basket.”

Thus we were obliged to give up the idea of a purchase here, and so went on. But a less variety and number to look at, coupled with a greater disposition to sell, was all we found by calling at a dozen or more other farm houses. At last we stopped to make a short call on Mr. Doolittle’s staunch political old friend Squire Jones.

Molly Finds some Poultry to Suit her.—The squire is a man of education, and is considered the best farmer in Agoknequaw. He and his kind lady received us very cordially; and upon making known the object of our call, his son, Edwin, a fine lad of thirteen, offered to show us the poultry, which his father said, was under his special care. As there were no buff turkeys among it, Uncle Sim felt no interest in going out, and so remained to talk politics and town matters with the squire.

The poultry yard we found abundantly stocked, very roomy, and complete. It fairly amazed Molly. There were superb peacocks with their singularly beautiful plumage; Guinea hens both white and grey; glossy-black and snow-white turkeys; large and small China, the formidable Bremen, and graceful wild geese; the large black duck, and the beautiful little wood duck. Of hens, Edwin said he formerly kept a great variety; but had now settled down to three kinds. The first we looked at, called the Pokanokets, were a superb, large breed—I think the most perfect barn-door fowls I ever set eyes on. The color of the hens was a bright, deep-golden ground, occasionally tipped with a white feather, and mottled all over with small jet-black spots. The cocks had large, double combs, reddish golden neck feathers and wings, black, speckled breasts, and black underneath the belly, and behind. They had fine heads and short bills; long, round, deep bodies, with fine, flat, yellow legs, of medium length. The other varieties were the handsome black Poland top knots, and the clean-legged, little white Bantams. All these were kept apart in large yards, and supplied with all the conveniences of food, water, shelter, laying, and hatching, that modern invention could provide.

Molly’s eyes glistened, as she walked over the premises; but thinking it would be too much to ask for anything she found here, I broached the subject for her. Edwin replied that he never sold poultry; but instantly gallantly added, if Miss Doolittle would do him the favor to accept a half dozen of the Pokanokets for the barn yard, and a few Bantams to nestle in the kitchen, together with a pair of the graceful white turkeys, which he had noticed she took a great fancy to, he would send them up to her father’s the first day the weather softened. Molly was so surprised at this unexpected offer, that she was going to refuse, but I stopped her and accepted them with many thanks; for I knew full well she would contrive to repay the generous boy amply in some way, before the coming summer should pass over. Returning to the house we found a good dinner waiting us, which

dispatched, and sitting a little while to digest it, off we started for the seaport village, of some twenty or thirty buildings, about half a mile further on.

Uncle Sim, unexpectedly, Lights upon a Yellow Tom Turkey.—Without saying anything to Uncle Sim, it was here I hoped to surprise him by the sight of a superb flock of buff turkies; as I had understood Captain Truck had recently arrived in his little schooner from a trading voyage with Yankee notions to Virginia, and had brought home some of the choicest birds to be found in that turkey-breeding region. And sure enough, as we drove up, there they were, superb great eighteen and twenty-four-pounders, just let loose from their coops, gobbling and strutting away in great force, joyous enough at obtaining their liberty once more.

How his Heart is Comforted at this Discovery.—

Uncle Sim instantly hopped out of the sleigh, and instinctively caught up the biggest yellow gobbler in both hands with unspeakable delight. Holding him out at arms' length in order to take in his whole noble proportions, he gazed at him with intense satisfaction; then bringing him up closely to his bosom, affectionately patted his head, stroked his neck, and at last, as I supposed, stooped down to rub his face against him. The turkey not relishing quite so much familiarity, seized Mr. Doolittle by the nose, and gave it such a grip in his powerful bill, as to cause him suddenly to let go of the bird, and drop his hands by his side. This example however, the belligerent gobbler did not seem inclined to follow, but only held on the tighter; and by way of additional exercise of his pugnacious powers, commenced beating Uncle Sim over the head and shoulders with his formidable wings with all his might. This was rather too much for Mr. Doolittle's affectionate patience to bear; so without further preliminary, he seized master Tom by the neck with both hands, and gave him such a vice-like grip, as to make him open his mouth with a choking spasm, and release the nasal organ of my excellent neighbor, without further ceremony, from its durance vile.

Here Captain Truck, a good natured, hearty, bluff fellow, came running out of his house nearly bursting with laughter. "A regular man-o-wars-man is old Longbeard, Mr. Doolittle; but had you belayed a bit, I could ha' told you that afore putting your grappling irons aboard of him."

Uncle Sim's nose bled slightly, and turned from its usual fiery red to nearly black and blue, where the turkey had gripped it; but to our surprise, he took the matter uncommonly good naturedly; and the very first he chose to head his new stock, was the identical belligerent that made the savage and unlooked-for attack upon his fiery proboscis. The only satisfaction we could get out of him for this selection, was, the shrewd remark, that "if hard upon fightin', he was sartin to be powerful at breedin', and the chicks would be despert strong, and take care o' themselves." I thought there was philosophy in this, and of course, did not attempt to gain-say it.

His selection over, we took to the sleigh again, and turning my hardy Canadian to the right about, he trotted us home under a hard pull, a distance of eleven miles, in a trifle less than an hour. Pretty fair work, I thought, when we consider the load at his heels. He did not appear to be tired nor blown

in the least at his performance, but upon unhitching, walked into the stable, gave a snort and three long puffs, and then fell to eating like a hungry pig just roused from a comfortable snooze in a warm pen.

SERGEANT TELTRUE.

SAMPLE OF A DEBATE IN A FARMERS' CLUB —EXPERIMENTAL FARMS.

THE course, which discussions in a Farmers' Club often takes, renders it evident that the experiments made are generally conducted on no fixed principles, but are for the most part under the guidance of chance. For instance, let the subject under consideration be the use and application of liquid manure, or of the nitrates of soda and potash, or of plaster and ground bones, the debate will almost invariably take a course similar to the following:—

Mr. Hope has tried the manure in question, and derived no benefit from it. Mr. Playfair, on the other hand, announces the brilliant success of his experiments with it; while Mr. Drawback declares his experience to be the very reverse of this, and to coincide with that of Mr. Hope. "Liquid manure," he says, "is liquid nonsense; and a few loads of rotten dung are worth more than all the nitrates of soda and potash in creation." This Mr. Goodluck as stoutly denies, and so the discussion proceeds to the extent of at least a dozen speakers, until Mr. Fairweather, the chairman, wisely sums up with becoming impartiality, by declaring that, "there is a great deal to be said on both sides."

Should the subject before them, however, be the merits of marl, as a fertilizer, the course of the debate may be so far different, that it will be condemned *in toto*, by acclamation, save one, or at most two farmers, who may have the boldness to defend it; and on inquiry, it will be found that these are not residents of the district, but have come from a section of the country, where, from the nature of the soil, marl is applied with the greatest benefits.

Now, in regard to the discordant results announced by these different individuals, they may be traced to a difference in the conditions under which the experiments were made. The soil, in one case, was deficient in the elements contained in the substance employed as a manure; in the other, it contained them in as large quantities as the crop raised could take up; or the crop, in the one case, consisted of a plant, into the composition of which, those elements sparingly enter, while in the other, they were largely required; or in the manure applied, two substances required by the crops were present, while two more were deficient. Experiments of this kind, therefore, in order to be conducted properly, require both a knowledge of the chemical ingredients of the soil, and of the plants to be raised in it; also, a knowledge of what portion of those ingredients they derive from the soil, and what portion from the atmosphere.

Experiments in farming, may be said to consist of two kinds; namely, those which have for their object the adoption of new modes of cultivation, based on scientific principles, but which have not yet anywhere been reduced to practice; and those which have for their object the extension of superior systems that have long been attended with success in other states, or in countries existing un-

der similar conditions of soil and climate. The first of these would be best conducted upon small farms exclusively devoted to experiments, supported by the subscriptions of associated gentlemen of wealth, and managed by those familiar with the details of practical farming, and with the principles of science. And it is believed that the funds of agricultural societies, which are generally expended in the form of premiums for over-fed animals, extraordinary crops of grain, &c., attended with no particular benefit to the community at large, might better be employed in a similar way.

With one or two exceptions, we believe no agricultural society, in Great Britain, now bestows premiums for the waste of food in "stuffing a beast to repletion," and wearying him "under a cumbrous load of bloated fatness," totally unfit for human food. The ostensible object of the exhibition of cattle, in England, at present, is to submit the finest specimens to the view of judges, having reference only to the improvement of the breed, economy in feeding, and exciting emulation. The same principles, we think, should be adopted in this country, which could be successfully accomplished by the establishment of a small experimental farm in each district or county, at public expense, under the direction of an intelligent committee of the State Agricultural Society, by whom the conditions of the experiments should be laid down, so as to obtain uniform results, and test the accuracy of the theoretical views which it is desired to establish or refute. Experiments in raising crops, might also be conducted in a similar manner on the same farm, the results of which, should, in all cases, be determined by weight or measure (not by loose estimates, as is too often the case); and, in order to render these experiments valuable to the advancement of agriculture, they should always be accompanied by the best possible analyses of the soil on which they were tried, and of the crops produced on it.

SPADES.

THIS most important

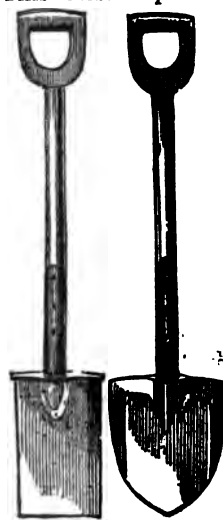


FIG. 26.

tool of the gardener varies in form and size, according to the work it is designed to execute.

The common *digging spade* is generally from 14 to 16 inches long in the plate, and 9 or 10 inches broad, narrowing down to the bottom at least half an inch. The spading of land with this instrument, produces the best results, from the thorough loosening and great depth to which the soil is stirred.

The *middling-sized spade* is about a foot long in the plate, and 7 or 8 inches broad. It is useful in digging any narrow compartments

and between rows of small plants, in flower beds, borders, &c.

The *scoop spade* has a semi-circular plate somewhat in the shape of a garden trowel. It is found very useful in taking up plants with balls of earth attached, in order to preserve them more firmly about the roots. Of these, and the other kinds, we have a great variety, from the best manufacturers, at prices varying from 75 cents to \$1.25 each.

EXPERIMENTS PROVING THE PROFITABLENESS OF THE COTSWOLD SHEEP.

ONE hundred and twenty-two lambs, weighing at the commencement of experiment 9,743 lbs., were found to consume, in 67 days, 98,088 lbs. turnips and 5,795 lbs. hay, from which we have the following, viz: that 1 lb. weight of lamb consumes in 67 days 10 lbs. $1\frac{1}{2}$ oz. turnips and $9\frac{1}{2}$ oz. hay.

The same lot of 122 lambs, weighing 9,743 lbs., consumed in 115 days 168,360 lbs. Swedes [rutabaga], and 10,065 lbs. hay, from which we find that, 1 lb. weight of lamb consumed, in 115 days, 17 lbs. $4\frac{1}{2}$ oz. Swedes, and 1 lb. $\frac{3}{4}$ oz. hay. This lot of lambs was composed of 41 Cotswold and Leicester cross breeds, 10 pure Leicesters, 30 Cotswold and Down cross breeds, and 41 pure Cotswolds. And the increase in mutton of each lot during the process of the experiment was ascertained. Founding a calculation upon the rates of consumption by each pound weight of carcass, we easily arrive at the exact proportional quantities which each lot should consume, if their powers of consumption are in proportion to their weights, which law, in fairness, may be assumed, until it is decided otherwise by experiments.

LOT I.—WEIGHING 76 lbs. PER SHEEP.

1 lb. carcass consuming 10 lbs. $1\frac{1}{2}$ oz. turnips in 67 days, each lamb in this lot weighing 76 lbs. at commencement, will have consumed $6\frac{1}{2}$ cwt. of turnips.

$9\frac{1}{2}$ oz. hay multiplied by 76 (the weight of lamb), do. 45 lbs of hay; add 17 lbs. $4\frac{1}{2}$ oz. Swedes multiplied by 76, equals consumption of Swedes, 115 days, $11\frac{1}{2}$ cwt. of Swedes.

1 lb. $\frac{3}{4}$ oz. hay multiplied by 76 equals 79 lbs. hay

From which we have the cost of keeping 26 weeks—

$6\frac{1}{2}$ cwt. turnips at 5d.	£0	2s.	10d.
$11\frac{1}{2}$ cwt. Swedes at 9d.	0	8	10
124 lbs. of hay at 3s. 6d. per cwt.	0	3	10
	0	15	6
Deduct $\frac{1}{4}$ for manure,	0	3	$10\frac{1}{2}$
	0	11	$7\frac{1}{2}$
Add expenses of management,	0	3	0
	0	14	$7\frac{1}{2}$
Deduct mutton gained, 20 lbs. at 7d. 0 11 8			
	Loss, £0	2	$11\frac{1}{2}$

LOT II.—WEIGHING 67½ lbs. PER LAMB.

Calculating as before—

10 lbs. $1\frac{1}{2}$ oz. turnips, multiplied by 67½

(weight of lamb), equals 6 cwt. turnips consumed by each in 67 days.
 9½ oz. hay multiplied by 67½, equals 40 lbs. of hay in ditto.

Add 17 lbs. 4½ oz. Swedes, multiplied by 67½, equals 10½ cwt. Swedes consumed by each in 115 days.

1 lb. ½ oz. hay, multiplied by 67½ equals 70 lbs. hay in ditto.

COST OF KEEPING THIS LOT 26 WEEKS.

6 cwt. turnips at 5d.	£0	2s.	6d.
10½ cwt. Swedes at 9d.	0	7	10½
110 lbs. hay at 3s. 6d. a cwt.	0	3	5½

0 13 10

Deduct ¼ for manure, . . . 0 3 5½

0 10 4½

Add expenses of management, . . . 0 3 0

0 13 4½

Deduct mutton gained, 13½ lbs. at 7d. 0 7 10½

Loss, £0 5 6

LOT III.—WEIGHING 79½ lbs. PER LAMB.

Calculating as before—

10 lbs. 1½ oz. turnips, multiplied by, 79½, equals 7½ cwt. turnips consumed by each in 67 days.

9½ oz. hay, multiplied by 79½, equals 47 lbs. in ditto.

Add 17 lbs. 4½ oz. Swedes, multiplied by 79½, equals 12½ cwt. Swedes, each in 115 days.

1 lb. ½ oz. hay, multiplied by 79½, equals 83 lbs. hay, ditto.

COST OF KEEPING THIS LOT 26 WEEKS.

7½ cwt. turnips at 5d.	£0	3s.	0d.
12½ cwt. Swedes at 9d.	0	9	2
130 lbs. hay at 3s. 6d. a cwt.	0	4	1

0 16 3

Deduct ¼ for manure, . . . 0 4 1

0 12 2

Add expenses of management, . . . 0 3 0

0 15 2

Deduct mutton gained, 22½ lbs. at 7d. 0 13 1½

Loss, £0 2 0½

LOT IV.—WEIGHING 87 lbs. PER SHEEP.

Calculating as before—

10 lbs. 1½ oz. turnips, multiplied by 87, equals 7½ cwt. turnips consumed by each in 67 days.

9½ oz. hay, multiplied by 87, equals 51½ lbs. hay, ditto.

Add 17 lbs. 4½ oz. Swedes, multiplied by 87, equals 13½ cwt. Swedes consumed by each in 115 days.

1 lb. ½ oz. hay, multiplied by 87, equals 91 lbs. hay, ditto.

COST OF KEEPING THIS LOT 26 WEEKS.

7½ cwt. turnips at 5d.	£0	3s.	3d.
13½ cwt. Swedes at 9d.	0	10	1
142½ lbs. hay at 3s. 6d. a cwt.	0	4	5

0 17 9½

Deduct ¼ for manure, . . . 0 4 5½

0 13 4

Add expenses of management, . . . 0 3 0

0 16 4

Deduct mutton increased, 29 lbs. at 7d. 0 16 11

£0 0 7

Gain in 26 weeks, . . .

RECAPITULATION.

	per head.
No. 1 Lot—Cotswold and Leicester loss in 26 weeks of	2s. 11½d.
2 " Leicester loss in 26 weeks of	5 6
3 " Cotswold and Downs loss in 26 weeks of,	2 0½
4 " Cotswold gain in 26 weeks of	0 7

It will be observed that the total result is fact—the history of a particular case; and the principle of dividing the quantity consumed in proportion to the weight of the carcass is the only postulate. From this estimate it is very evident that the Cotswold breed should not be rejected without proof being had, and that very conclusively, that they eat more food considerably than any other of the lots contrasted with, in proportion to their weight. In this experiment they beat the Leicesters 6s. a head, and the others 3s. 6d. and 2s. 6d.—*Agricultural Gazette*.

APPLICATION OF THE WATER RAM.

I NOTICE, that, in the February number of the *Agriculturist*, you advertise water rams for sale, and that, at page 51 of the same number, your correspondent, Mr. Bacon, who speaks in high terms of its applicability for raising water for the supply of farm buildings, gives an account of one of these machines, as being in successful operation about two miles from his residence.

Now, by what I have read concerning the water ram, or the "hydraulic ram," as it is called in some of the books, I understand that a portion of the water of any running brook or stream, when one or more feet of perpendicular fall can be obtained, may be forced by it to an elevation proportioned to the height of that fall. But I am at a loss to know whether one of the rams which you advertise, is sufficiently powerful to elevate water 70 feet in height from a small stream I have on my farm, with a ten-foot fall; and in which I should judge there is water enough to supply the calibre of an inch and a half pipe, through every month in the year.

By giving the information my case requires, you will greatly oblige

A SUBSCRIBER.

Dutchess County, N. Y., March, 1848.

The hydraulic ram, it will be recollected, may be applied to any spring or stream of water, where there is only a single foot of fall; but the greater

the fall, the higher the water can be raised, which will vary in quantity in proportion to the capacity of the ram, the size of the stream, and height of the fall.

To meet the case of our correspondent, he is informed that a pipe 40 feet long and of one and a quarter inch calibre, leading into the ram by a ten-foot fall, will deliver a constant stream, from a half-inch pipe, at an elevation of 85 feet. This information is given from actual experience, and may be relied upon as true.

THE STOCK HORSE—BLACK HAWK.

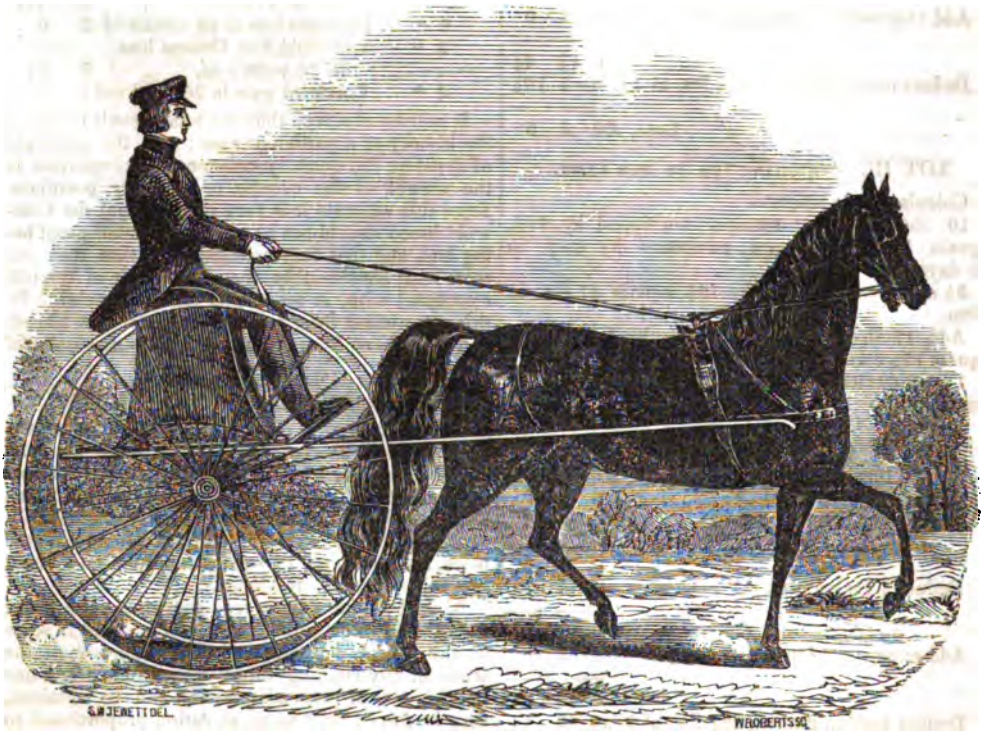
THE following figure is a portrait of Black Hawk, a celebrated stock horse, owned and kept at the stand of E. D. & N. H. Hill, Bridport, Vermont. He was bred by Mr. Mathews, of Durham, N. H.; Afterwards owned by Mr. Bellows, of Vt., and then

Course. Black Hawk won with ease the first heat in 2 minutes, 52 seconds; and the second heat in 2 minutes, 43 seconds.

He is of a jet-black color, stands 15 hands and one inch high, and weighs 1,024 lbs. He is thirteen years old and perfectly sound. Several of his colts, two years old, weighed last October, over 1,000 pounds. The colts generally turn out of a good size. They are good tempered, active, and remarkably easy to break in harness. They sell at better prices than any other colts in this section. Most of the premiums in this county are awarded to his stock, at the agricultural shows.

Black Hawk took the highest prize and a gold medal at the New York State Agricultural Society's Show, in September last, as the best stallion out of the state. W.

Middlebury, Vt., February 12th, 1848.



BLACK HAWK.—FIG. 27.

by Benjamin Thurston, of Lowell, Massachusetts, who tried his speed at trotting on Cambridge Park, where he trotted two five-mile heats in 30 minutes, 30 seconds, and one mile in 2 minutes, 42 seconds.

He has been kept for several years expressly for his stock. He covered, in 1846, one hundred and thirty-four mares, and got all but twelve of them with foal. In 1847, he covered one hundred and thirty-seven mares. His season extended from March to December. Under these circumstances and without training, he was matched against Moss Grey, at the time of the New York State Agricultural Show, last September, to trot a mile in harness and repeat on the Saratoga Trotting

[We have had the pleasure of seeing this splendid horse, of which our correspondent speaks, and think highly of him. His action is very fine. The cut above does him injustice in not making him sufficiently strong in the quarters; nor does it give his neck the graceful turn which belongs to him. The legs in the cut are also represented too long. He is in fact a handsome horse of great substance, in pony form. Vermont has long been celebrated for its superior breed of roadsters, and we are highly gratified in being informed that the spirit of improvement in that enterprising state is on the increase, not only in horses, but in cattle, sheep, and their general system of farm management.]

HISTORY OF THE CAST-IRON PLOW.

First Improvement of the Plow in Europe.—Although Fitzherbert, in 1532, Heresbach, in 1570, Worlidge, in 1677, and Tull about 1703, wrote more or less on the subject of plows, we can find no record of any decided improvement in them till Joseph Foljambe, of Yorkshire, England, got out a patent for one in 1720. His first was made in the town of Rotherham, and hence its name, "Rotherham plow," which it has ever since borne. Previous to this, the plow was a great, heavy implement, consisting almost entirely of wood, and was of exceedingly rude construction. It required from four to eight horses to draw it, and even then, it did its work in a very slow and imperfect manner.

Figure 28, gives the reader an accurate idea of Foljambe's plow, which, so far as the general principles of form are concerned, shows quite a perfect implement; and one which modern mechanics have but slightly improved, except in using cast and wrought iron in the construction of its several parts. This implement was formerly made almost entirely of wood.

This plow measured from the end of either handle to the point of the share, 7 feet, 4 inches. Length of the beam, 6 feet. Length of the landside and share, as they run on the ground, 2 feet, 10½ inches. Height from the ground to the top of the beam where the coulter goes through, 1 foot, 8 inches. Weight of wood and iron work, 140 lbs.

With this plow, a man and two horses could turn over, in a superior manner, from one to one and a quarter acres of ground per day, of nine hours long.

The clevis of Foljambe's plow was of wrought iron. The coulter and share were of wrought iron, edged with steel. The mould board and landside were of wood, covered with thin plates of tough iron.

In 1730, a man by the name of Lummis, introduced the Rotherham plow into Scotland, when the improved Scotch clevis, as shown at *a*, in fig. 28, was made for it. A person by the name of Dalziel, a few years after, added another improvement, viz: that of the draft chain, which was fastened to the centre of the beam over the mould board to pull by, the same as in modern plows.

The Rotherham plows, from the time of Lummis, were somewhat varied in the form of their mould boards, &c., by different manufacturers, to adapt them for heavy or light soils. We saw them, when in England, thus slightly altered in their shape, for particular purposes.

The Cast-Iron Mould Board.—To James Small, of Berwickshire, Scotland, belongs the high honor of the invention of the cast-iron mould board, and the improvement of its shape for stiff, clayey soils. This was about the year 1740. In general construction, his plows were like the Rotherham; and they are still considered as a standard for the elements of good plow making.

Mr. Small was extensively engaged in the manu-

facture of plows and other agricultural implements, in Berwickshire, till his death, in 1793; and did much during his life time to spread his improvements throughout Great Britain.

The Cast-Iron Share.—The next most important improvement in the plow, was the invention of the cast-iron share, by Robert Ransome, of Ipswich, England. This he patented in 1785. In 1803, he obtained a second patent for case-hardening or cold-chilling the point and edge of the share. This makes that part of the share as hard as steel, and adds greatly to its durability. This, also, was a very important improvement.

The Cast-Iron Landside.—A plain farmer of Suffolk county, England, constructed the landside of the plow, of cast iron, soon after the invention of the share by Mr. Ransome.

The Cast-Iron Plow Complete.—Thus about the year 1790, the body or skeleton of the plow, comprising the mould board, landside, and share, made of cast iron, in three distinct parts, was well known, and in use in Great Britain. Wrought and cast-iron beams, handles, and all other parts have since been frequently substituted for wood, particularly in Scotland.

Improvement of the Cast-Iron Plow in America.—Without any knowledge of these improvements



ROTHERHAM PLOW.—FIG. 28.

of the cast-iron plow in Great Britain, about 1799, a highly enterprising and ingenious person, of Burlington, New Jersey, by the name of Charles Newbold, took up the plow with the view of improving it in the United States. On the 17th of June, 1797, he obtained a patent for the cast-iron body or skeleton, in one piece, complete. Subsequently, he made his plow with a cast-iron mould board and landside, and attached to it a wrought-iron share, edged with steel. In the year 1800, he repeatedly spoke of still further improving his plow, by substituting the cast-iron share. But having spent upwards of \$30,000, in his improvements and efforts to introduce it into use in the United States and elsewhere, without a corresponding return, he became discouraged and gave up the business.

Mr. Jefferson, late President of the United States, constructed a mould board on scientific principles, in 1798, and wrote an elaborate article on the subject.

Peter T. Curtenius kept plows for sale in the city of New York, as early as 1800, the shares and mould boards of cast iron, in separate parts. Who the manufacturer of these was, we are unable to learn.

In 1807, we believe, David Peacock, of New Jersey, obtained a patent for a plow, the mould board and landside of cast iron and in separate parts, the

share of wrought iron, steel-edged. He copied Mr. Newbold's plow in part, for the privilege of which he paid him \$1,000. Robert Smith, of Buckingham, Pennsylvania, obtained a patent for a cast-iron mould board, probably as early as 1804 to '6. This is said to have been constructed on mathematical principles, and was highly approved of. Mr. Smith wrote a good article on the construction of plows.

In 1814, Jethro Wood obtained a patent for a plow, the mould board, landside, and share in three parts, and of cast iron. He was familiar with Newbold's and Peacock's plows; of which his was a bungling imitation, and not near so perfect in form nor construction, as the old Rotherham plow, that had been in use in Great Britain, at least eighty-four years before.

It is said that the cast-iron plow, in three parts, viz: mould board, landside, and share, was in use in Virginia previous to 1814, and that Wood was aware of it; and that, through the Encyclopædias and other works, he also knew of the improvements in Great Britain. In any event, it is perfectly plain that he never ought to have had a patent conferred upon him for the cast-iron share, nor for any other improvements in the plow. He constructed *nothing original* in all he undertook. His only merit, so far as we can learn, was to assist in bringing the cast-iron share into more general use, sooner than it might otherwise have been done.*

Edwin A. Stevens, of Hoboken, New Jersey, took up the plow, in 1817, and for nearly four years devoted his ingenious talents to its improvement. He often tested it with an accurately-arranged dynamometer, and in various other ways, and against the best plows within his reach, and at length, succeeded in making it so perfect that it found great favor with the public, and has been a standing model for most of the best plows since manufactured in the United States. He informed us that he took his idea of a cast-iron plow from Mr. Newbold's invention.

Mr. Stevens patented his plow on the 23d of April, 1821, and was the first in this country to make use of the process of *cold-chilling* the base of the landside and lower edge of the share, which was also embraced in his specification for a patent.

In 1819, Josiah Dutcher, of New York, commenced improving the cast-iron plow, and has continued to do so to the present day. He lengthened and improved the shape of the mould board, and the method of fastening it to the beam; lengthened the share and added the shin piece; increased the width of the landside, and improved the manner of fastening it to the mould board, by lapping it outside and lengthening it to touch the share. He has also considerably improved the prairie plow. We regret to add, that, from the imperfection of the

patent laws, Mr. Dutcher has not met with that reward which he so highly merits for his great mechanical skill and numerous improvements in the plow.

Mr. Davis, of the District of Columbia, Mr. Bergen, of Long Island, and Mr. Moore, of Ithica, New York, and several others, whose names we have not been able to ascertain, are entitled to more or less credit for their improvements in the plow.

Mr. Joel Nourse, of the firm of Ruggles, Nourse, and Mason, of Boston and Worcester, Massachusetts, has done much in the construction of superior new plows, of many different kinds and sizes, and in their general improvement. The new dial clevis, and self-sharpening plow, of this eminent agricultural-implement manufacturing firm, are among the most important improvements in the plow which have been made within this century.

LETTERS FROM VIRGINIA.—No. 5.

I HAVE been spending a few days at the hospitable mansion of Commodore Thomas Ap Catesby Jones, near Prospect Hill, in Fairfax county, some ten miles from Washington. The good old Commodore is himself absent, having recently been assigned to the command of the Pacific squadron, on the coast of South America. Previous to his departure, I had made his acquaintance, and heard from his own lips a full account of the agricultural experiments on his extensive plantation, at Sharon, where he has resided for the last twenty years. As a naval commander, he ranks among the highest in that splendid galaxy which adorns our naval history. His first appearance on this theatre, was in December, 1814, when Admiral Cochrane made his formidable attempt on New Orleans, a few weeks previous to the famous battle of the 8th of January, 1815. When the fleet first hove in sight off the entrance of Lake Borgne, Lieut. Jones was in command of a division consisting of five gunboats, in the bay, with a force of twenty-three guns, and 183 men only. At daylight, on the morning of the 14th, the boats of the enemy were perceived advancing to the attack; and although the force opposed to him was utterly overwhelming, Lieut. Jones gallantly determined to defend his position. He accordingly made his arrangements to form the boats under his command directly across the channel, in a close line abreast; but the force of the current carried his own and one other much in advance of their companions, and exposed him with but eight guns and 62 men, to the whole force of the enemy, consisting of between 40 and 50 barges with forty-two guns and eight hundred men. The action immediately became general, and at noon the enemy was sufficiently near to make an attempt to board the boat of Lieut. Jones, which had become perilously exposed by its advance position. Three boats dashed at her, two of which were immediately sunk, and the attack repulsed. It was again renewed by four boats, which were also beaten off with a heavy loss. In repelling this last attack, however, Lieut. Jones was shot down, and the command devolved on a young midshipman (Mr. Parker), who kept up the defence until he was himself severely wounded and overpowered by numbers. "Although the loss of this division of gunboats," says Cooper, in his *Naval History*, "was a serious impediment to

* We observed a few months since, in a contemporary paper, a highly laudatory notice, on *hearsay evidence*, of Jethro Wood and his improvements in the plow, classing him with a Whitney and a Fulton! The writer of that article only shows one thing in his fulsome panegyric, and poor attempt to correct what he is pleased to term "striking inconsistencies," "serious errors" and "random assertions," and that is—*extreme ignorance* in regard to the plow and its improvements, both prior and subsequent to Jethro Wood's day. We advise him to let plows alone hereafter, and stick to his *budding Amie's*. For this advice, we shall not charge him \$100, nor \$50, nor any other sum which he has taken good care to finger whenever he did anything for the Transactions of the State Agricultural Society.

the defence of New Orleans, both the country and the service looked upon the result of the combat as a triumph. On the latter, in particular, the resistance made by Lieut. Jones and the officers and men under his orders, reflected great honor, for it was known to have been made almost without hope." The enemy's loss was 400 men in this single engagement. The subsequent services of Commodore Jones are well known to the country, and need not be recapitulated.

It is in his capacity as an agriculturist, that I design more particularly to speak of at this time. His farm consists of some six or seven hundred acres, favorably located, comprising a fertile soil, rendered so, chiefly by his unwearied and systematic exertions. When he first came into possession of it, twenty years since, it was utterly barren and unproductive; but by a judicious and continued process of scientific husbandry, by the free application of lime and other manures, and by the successive adoption of all the varied improvements of the day, it has become the pattern farm of the entire region—yielding fifteen to twenty bushels of wheat per acre—one hundred of corn [we presume this quantity means corn in the ear. Ed.] and other crops in proportion. In some seasons, three, and even four crops of excellent clover, averaging nearly two tons to the acre, have been secured; and in short, no pains for cultivation are spared to render every acre highly productive. Nearly opposite, the Commodore's brother, Adj. Gen. Jones, of Washington, has a farm of nearly equal extent, lying on the Potomac; and both gentlemen may be regarded as model farmers; personally supervising, so far as their official duties will permit, the operations of their plantations—ready to adopt every suggestion which promises improvement—and leaving nothing undone which may conduce to the renovation and fertility of their lands.

There are several excellent farms, as well as judicious and enlightened farmers, in this neighborhood, nearly all of whom attach great importance to the influence of lime in the amelioration and fertilization of their land. From twenty to fifty and even a hundred bushels per acre are frequently applied, and with the most marked and beneficial results. Except, when applied as a top dressing for clover or any of the grasses, plaster does not seem to produce any very decided effect; lime, however, when freely applied, seldom fails of securing abundant and remunerating crops. The liberal use of the ordinary barn-yard manures, is, of course, presupposed, as without this indispensable ingredient no farmer expects to secure a crop. The use of charcoal is gradually obtaining favor; and as the subject of scientific agriculture becomes better known, it will, in my judgment, prevail far more generally than it has hitherto done. The extensive pine forests in this region cannot, as it seems to me, be put to a better use than in furnishing this admirable absorbent of the nutritious gases of the atmosphere.

Since I have been here, I have visited great numbers of our northern farmers who have emigrated and settled in this neighborhood; and I find them all, without a solitary exception, in prosperous and favorable circumstances—delighted with the climate—satisfied with the fertility and

productiveness of the land—pleasantly situated—and pleased with the prospects before them. Capt. Hatch, formerly of Chenango, A. Lawrence Foster, of Madison; Mr. Coe, Mr. Childs, of Ontario; Mr. Barrett, Mr. Hull, formerly of Oneida; Mr. Taylor, of Dutchess; Mr. Sherman, of Connecticut; Mr. Loomis, Mr. Crocker, and several others, whom I have seen, and most of whom I had formerly known in New York, are in the "full tide of successful experiment," here in Fairfax; and it needs only a glance at their fertile fields and broad acres, their commodious farm buildings and well-filled granaries, their cheerful and contented faces, and healthy, happy families, to be satisfied that in exchanging your rugged clime for that of the "sunny south," they have not merely consulted their pecuniary well-being, but secured for themselves pleasant and agreeable homes, with all needed facilities for permanent comfort and enjoyment. In addition to this, they have been the means of introducing numerous valuable improvements into the agriculture of this region; they have brought with them northern implements, northern usages, habits, and customs; northern schools and churches; northern industry and economy; northern enterprise and energy; and ten years will not elapse before, in all probability, the infusion thus communicated, of northern restlessness and progressive improvement, will change the aspect of this portion of the Old Dominion, and render it, in fact, that earthly Paradise, which the Father of his country predicted it would ultimately become.

A NEW-YORKER.

MATCH BETWEEN ECLIPSE AND SIR HENRY.

I was much interested by the brief details in the last number of the *Agriculturist*, of your visit to Dosoris, the natal spot of Eclipse. I was also highly pleased to see Mr. Colden's account of his famous race with Sir Henry, recorded in your pages; but as there are some inaccuracies in that account, will you allow one who was intimate with all the actors in the exciting event, to make such additions and emendations as he believes are strictly correct.

First Heat.—When the horses had gone three and a half miles in the first heat, Eclipse commenced his run. He gradually gained on Sir Henry all the way around the turn. Crafts did not use his whip until three fourths of the distance round the turn; but had spurred Eclipse freely. As the horses were sweeping off the turn to the straight stretch home (Eclipse, with his nose at Henry's tail), Crafts disengaged his right hand from the bridle and commenced whipping Eclipse. Not being strong enough to hold him with one hand and whip with the other, he lost his balance, slipped back nearly upon the cantle of the saddle, and broke up the stride of Eclipse. At once Henry opened away from him, a length in the clear. At this crisis, Buckley, the trainer, shouted to Crafts, to drop his whip; doing so, he gained the bridle with his right hand, brought himself to the seat in the saddle, braced Eclipse up with a good stiff pull, touched him with his spurs, and on went his horse, gaining at every stride until he caught Henry at the stand, and was only beaten a neck out for the heat. Had Crafts not taken his hand from the

bridle, Eclipse must have won the heat, as Henry had nothing to spare when he crossed the score.

How different is all this from Mr. Colden's account. It was Buckley's opinion that Crafts lost the heat by the use of his whip. He was too young to have the requisite coolness. He was too eager and lost his self-possession. He was only one length behind Henry, the nose of Eclipse covering Henry's tail. When he gave up his pull, Henry at once gained two lengths in the clear, and yet in a quarter of a mile, was caught and only won the heat by a neck. Eclipse was the most footy on the straight sides, Henry around the turns.

Second Heat.—Mr. Colden is inaccurate here. His position down the course, a full quarter of a mile from the head, was so far away, that if the course had been clear of people, he could not have determined the position of the horses; but with the dense crowd upon it he could scarcely have seen them at all; or certainly not until they were some way down the back stretch, could any one at Mr. Colden's point of view have seen them. I have often talked this matter over with Mr. Buckley, the trainer of Eclipse, and his narration of both heats differs from Mr. Colden's. Mr. C. was an excitable man, and was so much interested in the race, that he could not sufficiently command himself to see correctly. At the period at which he wrote the account, he was on bad terms with the owners of Eclipse, and sought to disparage him. I speak of this as a matter well known, or otherwise I should not have mentioned it. The following is an accurate account:—

My authority had his view from the stand, where he could see the horses all around the course. It is also corroborated by Mr. Purdy, who saw the first heat, and rode the second and third.

After the end of the first heat, Mr. Purdy at once said, "I must ride Eclipse," and forthwith went to the stand, dressed himself, and weighed. On going to his horse to mount, he said to Messrs. Stevens, Livingston, Van Ranst, and others, "Eclipse has the foot of Henry in straight running; but I shall run him a trailing race, making Henry do all he can until two miles and three quarters, when I will commence my run for the lead; I will lap him at the stand, on finishing the third mile, and as my brush up the straight side will have taken the foot out of him, I will pass him at the top of the course in the fourth mile, and will be clear of him as we go on to the straight side on the back of the course; from thence home to the winning post, he shall never come near me." And so Mr. Purdy rode the heat. He found that he could run on to Henry in straight work, and drove him all the time. At no time was Henry (as Mr. Colden says) twenty feet from Eclipse, after they had gone one quarter of a mile. On every straight side, for three miles, was Eclipse at Henry's side, feigning to pass; while, at the turns, he dropped back, to freshen himself, and be ready to crowd Henry on the straight running. The severe work for two miles and three fourths had told on Henry; and now, at length, Eclipse's time had come. As the horses entered the straight run home, Mr. Purdy commenced his run for the lead. At this time Henry was a length in the clear ahead. Eclipse's brush was a steady one; at the draw gate he had reached Henry; Henry rallied desperately,

but Eclipse was too much for him; steadily he gained, with something in reserve; they neared the stand, Eclipse lying on the *outside*; they came to the stand and Eclipse lapped Henry to the saddle; they passed the stand, and Purdy, for the first time did not ease his horse on the turn; it was evident that the race was out; Eclipse gained at every stride, and now, for the first time in the race, had the foot of Henry on the turn. As they passed the stand, Eclipse *was* on the outside, and lapped Henry; he *never gave back* at all, but gradually gained thence to the head of the course, where he was a neck in the lead; the pace told not on him, but on Henry it did; and away went Eclipse, till on entering the straight run on the back side in the fourth mile, he was clear of him. Thence to the stand he was alone, with the race all his own, and beat Henry out some twenty feet in the clear.

It will be seen that Mr. Purdy ran the second heat as he had proposed. From this account, it will also be seen that Eclipse could not have passed Henry on the inside. And such is the fact; the narrator has been assured over and over by Mr. Purdy, that he did pass on the outside. And it may be asked what inducement had he to tell a falsehood. It was his right to pass on the inside if he could, subject to being run inside the pole, and thus be distanced. Had he passed on the inside, as it had been done safely, there could be no reason to conceal it. But Mr. Colden was the only man who ever asserted it. The heat showed a full and just appreciation of the powers of Eclipse, by Mr. Purdy; an admirable plan for the heat; and an equally admirable execution of his purpose.

The Third Heat.—This may be disposed of in a few words, and those of Mr. Purdy, now quoted from memory. He said, "Eclipse could have run the second heat in less than 7m. 49s., had it been necessary; and could have run the third in eight minutes easily, had Henry been able to do it. But Henry was overmarked by the race, and over-weighted in the last heat. I soon found that Henry was done up, and I had only to go along moderately to win the last heat. Nothing was to be gained by a quick heat, and something might be lost. In the heat, Eclipse was strong and could more easily run away from Henry whenever called on. I ran to win, and should have been ten minutes in doing it if Henry had gone slowly enough to permit it. He at no time in the heat made any show of taking the lead. Eclipse always needed driving to get a run out of him; and yet I never punished him less in a heat than in this last one. I took the lead easily, kept it easily, and won easily, with Eclipse strong under me, firm in his mouth, and having a deal of run still in him."

And he added, "no horse could outlast Eclipse, none out foot him; and I never met one save Henry, who was so speedy, and he only on the turns." Eclipse, in his pace, went low or close to the ground, with a long stride, while Henry, a pony in make, gathered quick and had a short stride; of course, his short stroke was an advantage over Eclipse around the turns; but Eclipse's low, long stride, in straight going, gave him the foot of Henry. Had Mr. Purdy rode the first heat, Eclipse would have unquestionably won it without distressing him in the least.

LONG ISLANDER.

THE PRINCESS TRIBE OF SHORT HORNS.

THE following is an extract from a letter recently written by Thomas Bates, Esq., Kirkleavington, England, to Mr. Geo. Vail, of Troy, New York.

No animals of the Princess blood can now be had in England, *worth sending* to America, except what I have, descended from the Matchem cow, the grandam of your Wellington; and that tribe was only preserved by putting the Matchem cow to bulls of my Duchess family. Mr. Harvey, of Liverpool, instructed me to buy one for him, last year, for which I gave twenty pounds, but he soon sold her for less than prime cost.

I will give you the particulars of the breeding of the Matchem cow. I bought her at a public sale (and all the most conspicuous breeders were there); the price was £11. I bought sixteen other cows at the same sale, and not one of them bred anything good, except the Matchem cow. She had bred two calves, both indifferent, and was in calf when I bought her, to Young Monarch, a bull of Mr. Mason's tribe. They are now attempting to hold this tribe in high estimation in England, but they never were good, and never can be made good, let breeder try as long as they please. I put this cow afterwards to two bulls (one of Mr. Whittaker's tribe). Her first five calves were all very indifferent.

The Matchem cow's looks and character were all one could wish, white in color, with fine waxy horns. She was a very great milker, and was always, when in milk, very low in condition, and always milked through to calving. When she ceased breeding, having had ten calves, she was fed off at seventeen years of age, and in three months, she made an excellent carcass of beef; which was of beautiful color and well marbled, fat mixed with lean, which is a mark of excellence; and very few tribes of cattle are so, except the Duchess tribe or blood. Fine marbled beef can only be had from really good handlers, with good hair.

I let my tenants, the Messrs. Bell, have this cow after I had bought her. She leaped the fences and led all the other cattle astray; and Messrs. Bell desired me to let them sell her at Darlington, which I did, saying, "ask £12 for her, and do not take less than prime cost, £11. If you cannot get that bring her home again. In the evening, Mr. Bell came home with the cow, and on inquiry, I found he was once offered £9 15 shillings, and she stood at £11, and no one would give it. I asked him if he still wished to part with her; he said yes, at £11. I said I would take her at that price, if he wished; but would tell him beforehand, that I would put her to bulls having Duchess blood, and I was sure she would not breed a calf worth less than 100 guineas. After so telling him, he said he would be glad to have £11 for her, which I gave him.

I put her, the first two years, to my bull, Duke of Cleveland, and the last three years to my bull, Short Tail. The Oxford premium cow (the dam of your Wellington), was her first calf. I never saw calves so promising from the calving, and all the stock descended from them has been superior.

Now I have at different times bought near forty cows of the Princess tribe, the best of that tribe then left in England, and this one, the Matchem cow, alone, has been the only one that I have con-

tinued to breed from. I have never seen one of the Princess tribe after a cross of any other blood, than the Duchess tribe of bulls, ever breed well again. *They breed well to pure-bred Princess tribe of bulls*; but the purchasers of them have had no judgment and used other tribes of Short Horns. Now this fact speaks volumes of the danger of using blood not properly descended on both sides, sire and dam. Had the Princess family, sold at Sir Henry Vane Tempest's sale after his death in 1813, been properly preserved, and put to my Duchess tribe of bulls, they would now have been the best in England; but there is not one now good, except those I have from the Matchem cow, and her descendants—and *without one exception*, these have all been good, and all descended from them. Your Wellington is a proof; and I have now four calves from the own sister of my two Cleveland Lads, which I would not take two thousand guineas for, nor indeed sell at any price. Two of these were by my Duke of Northumberland, a bull and a heifer; the other two, also, a bull and a heifer, by my 2d Duke of Northumberland. The dam of these is now in calf to my 4th Duke of Northumberland.

I have been thus particular to let you know how highly I prize this tribe, the *only one* left of any value from the Princess tribe of cows.

THE RIDGING OR DOUBLE MOULD-BOARD PLOW.

THIS implement is sufficiently light to be worked by one horse, and is used for opening drills to plant potatoes, corn, &c. In plowing out between narrow rows, it throws the dirt both ways to the plants, and thus does the work of two plows. It is also very useful in digging potatoes, as well as a very convenient implement for various kinds of work, ditching, &c., and should always be kept on the farm.

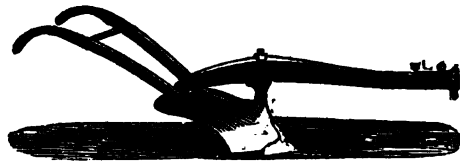


FIG. 29.—SIDE VIEW.

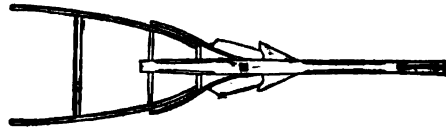


FIG. 30.—TOP VIEW.

No. 2 Double Mould Board.—Of same construction and use as the above, but one size larger. This is also used in furrowing for planting cane, and making light ditches. It has an extra point made, of an additional width, for the purpose of digging potatoes.

The Fluke or Double-Expanding Mould-Board Plow, for planting Sugar Cane.—This is a plow recently made, expressly for the use of sugar planters, by which a furrow is opened ten to twelve inches wide, and four to five inches deep.

MANAGEMENT OF HONEY BEES—No. 18.

The Age of Bees.—Much diversity of opinion has been expressed upon the natural age of bees, and perhaps the extreme length of time that they have in single, or particular instances survived, has never been fully demonstrated to an extent that may be properly cited, as proof of their exact longevity. But from certain facts, within the notice of every apiarian, we may safely come to this conclusion,—that they seldom, if ever, live to see the first annual return of their birth-day.

Of this fact, we may be assured, if we reason from analogy only, inasmuch as the insect tribes generally terminate their existence within a year; but we have stronger proof than this. We know that if a swarm of bees be placed where their limits of operation are unrestricted; for instance, in a very large hive, or in a room, that they do not throw off any swarms in such a case, but at the same time, the increase of bees, every spring and summer, is not less, and perhaps more than would be the case, had they been placed in an ordinary hive, where several swarms would be annually thrown off. This being a fact, it follows that if the life of the bee extended to two, three, or up to ten years, as some naturalists have asserted, that the aggregate number of bees accumulated in locations of unrestricted limits, would, in two or three seasons be enormous; but such is not the case. The general annual increase of every stock of bees (the term *stock* is given in their *second* year, and thereafter), we may fairly put down at 20,000. The usual number of bees in a hive on the first of March, may be estimated at from 2,000 to 5,000, according to the prosperity of the stock; if the bees exist longer than one year, or even 9 or 10 months, the following spring would find every stock with surplus room, to consist of all the increase of the preceding season, together with a portion, at least, of the old bees in existence the previous spring, making in the aggregate, say, from 20,000 to 25,000 bees. Now, instead of such a result, we invariably find about the original number in existence at the opening of each successive spring, and if we commence with 3,000, and the bees prosper for a period of ten years, giving an annual increase of 20,000, and not throwing off a single swarm during the whole period of ten years, producing in that time, the enormous number of 200,000 bees, yet on the first of March, of the season of their tenth year, we should find but our original number of 3,000 bees.

This is true of any number of intervening years, down to the second year of their existence. From my own experience, in this matter, I think I can safely say, that the natural age of the honey bee is within *nine months*. Like the human species, their days are cut off at all periods of life, and they, too, may truly say,—“In the midst of life, we are in death.”

The foregoing applies only to the age of that class of bees, termed the *workers*, the queen and the drones being a minor class, and their age should not be brought into the general question of the natural age of the honey bee. The queen lives beyond a year, but under two years. The drones generally die a violent death at the age of two, or three months, or a natural death at the age of about six months. Of the ages of the queen and the drones

much may be interestingly said, I think, but this is not the place to write a complete natural history of the honey bee.

I commenced these numbers upon the management of the honey bee, without the most remote idea of writing to the extent to which I have written. To while away the tedium of an unemployed hour, I hastily threw together the crude off-handed remarks of my first essay—I have in the same unprepared manner, without method or pre-contemplated arrangement, given to the public my subsequent remarks, without even giving the subject a thought, until, perhaps, the last hour allotted for their preparation; and I learn very unexpectedly that my crude essays have been read with some interest, and in consequence of the very favorable manifestations of approval of my feeble attempt at elucidating this subject, I shall prepare a work for the press, in which I shall endeavor to present the whole subject, in a methodical manner, embracing the substance of the numbers herein published, and such other matter as I shall deem of interest to the American bee master, of which there is an ample field.

I shall endeavor to render it a work that will lead the uninformed on the subject, from the beginning to the end of bee management, in a plain, definite, comprehensive manner; and to weave through its pages an interest that shall not only instruct its readers, but awaken the dormant feeling upon the value and science of the management of bees, that is too prevalent. Although it is not a place here to write a prospectus, yet I would say, that a plain intelligible work, fully adapted to the uses of the American people, has never yet appeared. The indefinite verbosity of foreign authors upon this subject, leaves the mind vague and unsatisfied. How far I shall succeed in supplying the vacuum, time will determine.

In consequence of this contemplated work, I now close my remarks in the *Agriculturist*; and I should be happy to receive communications from gentlemen in every section of the United States, detailing any experiments, or facts worthy of particular notice, that may have come under their observation, and address the same to me, No. 143 Water street, New York. This will, perhaps, enable me to give to the public, a work embracing important facts coming under the observation of different individuals in different parts of our own country.

T. B. MINER.

Ravenswood, L. I., April, 1848.

BENEFIT OF SALT IN THE FOOD OF SHEEP.—

From some experiments made at the Agricultural Institute, at St. Germain, in France, it appears that the sheep, which gained in weight 3½ lbs. a month, increased double that amount in the same length of time, when about one tenth of an ounce of salt was added to the food of each per day.

WHAT CONSTITUTES GOOD FARMING.—About 2,000 years ago, when the old Roman, Columella, was asked what constituted good farming, he answered “first, good plowing.” On again being asked what came next, he replied, “good plowing;” thus strongly impressing the occasion for good tillage over every other consideration.

MANAGEMENT OF CALVES.

It is almost certain for a *well-bred* calf to come *small*; the smaller the better, if well proportioned. I have seen numerous *large calves*, but never saw one that grew up to a good animal. This assertion can be endorsed by most of the best breeders in England, and in this country; in the former, the largest ones are generally selected and fattened for the butcher, at from six to eight weeks old.

I have reared calves in almost every way. They have run with the cows the whole summer. I have kept them on new milk for two months, then have given them half new and half skim milk. I have kept them entirely on skim milk; and on a little new milk and linseed jelly. At the present time, I am raising them on two quarts of new milk, night and morning, mixed with half a pint of linseed jelly. At three weeks old, I reduce the milk to three pints, and add another half pint of jelly. At five weeks, I give them a quart of milk only, and add another half pint of jelly. By this time they will begin to eat some shorts and hay. The best cow I ever bred, or ever had, was reared on skim milk; and many who saw her in the field with her round swelling paunch (amongst others of a similar character), thought she was nothing but a common calf, the whole of them looking to an inexperienced eye, like "common stock," but they all grew up superior animals.

If many of the "full-blooded," fat, bull calves had been killed, to rejoice over the reform of rich men's prodigal sons, this "humboggery," in cattle, would not have been so effectually established, and the money spent in dash and show applied to procure the best, what a different picture would have been drawn. So long as some men have the credit of being called rich, and fat their mongrel calves to gain a great name, and have no care beyond it, they little imagine the tottering foundation they stand upon, and how soon they must be detected; the lenient hand of time will prove them but emptiness and vanity. They gain no superiority in this world, and are a laughing stock for the more enlightened class of the community. But enough of this, let them gallop on, it will not last for ever.

I firmly believe that calves brought up sparingly and economically, prove much better, and more profitable animals, than those that suck the cows. It is a more sure way to develop the frame, muscle, and milk vessels of the female. I have no doubt the secretion of milk is formed at a very early stage, and when the calf is sucking all the milk from a good dam, the frame is covered with fat and lean meat; and it appears very plausible to me that while this meat is increasing with the rich food, the vessels, for the secretion of milk, are diminishing, and such an animal must be extravagantly fed after leaving the dam, to keep up its condition. It is almost impossible to find food equal to what it had left.

There is nothing more deceiving than a fat bull calf, and thousands have been most meanly disappointed. If he is *left to chance*, he gradually degenerates in appearance; his frame, muscle, and sinews, all grow weaker, as the flesh disappears, and a young animal, so reduced, is much injured in constitution, and often produces disease and death.

How often have inexperienced men purchased such calves when their bad points have been covered; and *when poverty has exposed their true character*, they very justly condemn both the calf and its breeder, and become disgusted with what is called "blooded stock," for no other reason than because they have been imposed upon by a *large fat calf*.

A Hereford does not look so well when a calf, as a Short Horn, and I admit that a Short Horn shows better until after two years old; but the third year, a Hereford will develop itself and come out triumphantly; and no animal should go to the shambles, until three years old. There is no profit to either feeder or butcher, if killed at an earlier age, unless it is near a market, where butchers will pay a remunerating price for good veal. Cows kept on purpose to fat calves for market, has been a lucrative business. I know many farmers in England, who confine themselves entirely to this practice and feed from six to nine calves per year on each cow. Aylsbury market, in Buckinghamshire, is generally full of carts, loaded with young calves, destined for this purpose, and many a man gets a good living by keeping a horse and cart, buying them of the farmers as soon as dropped, and selling them to their regular customers, who constantly attend that market. It is the largest market for such young animals in England, being near enough to convey them to London daily. There is so much grass land in that neighborhood suitable for the business. I am decidedly in favor of having calves come in October, November, and December. At that time, skim milk can be kept sweet, and if they are kept in a warm place, they will do much better than in summer. In warm weather, your milk soon becomes sour, and then they will not drink it, or even if they do, it does them injury; it purges and weakens them; their hair stands the wrong way; they suck each others ears and drink each others urine, and frequently die of extreme poverty. If calves are well and economically brought up in the winter, and turned out to good grass in the spring, they thrive surprisingly, and the next winter, they will live on the same kind of food, as yearlings bred the previous spring, and will continue to do well until they arrive at maturity, with proper care. A bull can be turned out with them six months earlier than a spring calf; they will come in at two years and a half old with nearly as much constitution and vigor, and probably better milkers. I like to have heifers come in the first time, when they have a good bite of grass. If the calf is taken away at three days old, she will come in the second year two and a half months earlier, the third at the right season, and the butter made from the cows, in winter, will fetch from three to six cents per pound more than tub butter. I sold mine for 18 to 25 cents, in Albany, when tub butter was only worth 12½ to 14 cents; and it is less trouble to make it in winter than in summer. Much more milk and butter can be made from hay, than is cut young, than that left to grow to maturity. But I will send you an article on that subject at some future time. WM. H. SOTHAM.

Black Rock, January 1st, 1848.

FACTS and not theories, or opinions, are the things most wanted for the improvement of agriculture.

Condensed Correspondence.

EXPERIMENT WITH THE POTATO.

OUR veteran friend, Judge Ford, of Morristown, N. J., informs us that he planted in his garden on the 3d of May last, without any manure, 15 Mercer potatoes, apparently sound; and that on the 27th of the same month, some of them had thrown up shoots an inch above the ground. The tubers, producing them, were carefully taken up, from which 60 sprouts were plucked, and then restored to their bed, in order to produce more. These sprouts were planted upright, with their tops half an inch below the surface, in conical hills or mounds of earth, a foot high, one to each hill, three feet apart, and containing no manure.

On the 3d of June, 60 sprouts more were taken off and planted in another row, three feet distant from the one named above, and treated in every respect the same, the tubers which produced them, being returned again to their bed, where, without further care, they were suffered to grow. The result, was, that the old tubers produced a great number of exceedingly small ones, each of which was half destroyed with putridity and rot; whereas, not one of those grown from the sprouts had the slightest sign of disease at the time of digging them, on the 23d of September, and had not shown any up to the middle of February. No hill gave more than one potato of the size of a goose egg; but a considerable number of them were quite too small for the table.

Two other rows were also planted with Mercers, from the same parcel of seed, within the distance of 20 feet from those described above; and before their young tubers had acquired half the size of a hen's egg, in spite of the application of lime and fine charcoal, and the cutting off of their tops, they became infected with the disease, and a fourth part of them had to be thrown away.

The treatment of the sprouts, Judge Ford thinks, was improper in the following respects:—1. Only one solitary shoot was set in a hill, instead of four. 2. The mounds were so elevated, that, by shedding off the rain and dew, their sides were exposed both to the influences of the sun and wind, and consequently became too dry to nourish the plants. 3. If there was no disease in the sprouts, as he supposes there was not, a liberal dressing of manure might have been applied to the ground, and likewise in the hill, and a large yield of sound potatoes, he thinks would have been raised.

PROPOSED HEDGE PLANT.

WE have received a communication from Mr. S. D. Ingham, of New Hope, Pa., accompanied by a small package of the seeds of a species of thorn (*crataegus*), from the Alleghany range between the White and Red Sulphur Springs, in Virginia. His attention was first drawn to this plant, by observing that, wherever the cattle had browsed off the tops, in an old field, a remarkably close and bushy growth was formed without any other trimming. The stem of each bush, he represents to have been as thick as his wrist, and capable of making from 2 to 3 feet of very thick hedge.

The seeds, or haws, he says, can be obtained in

great abundance at the last-named place, and if an easy mode of propagating them could be devised, he thinks that this thorn would make an excellent hedge plant. The package he has sent us, he wishes to be placed into the hands of some one for experiment, with the view of learning the best mode of propagation. If any amateur, or experienced nurseryman, is desirous to make the trial, a part or the whole of the seeds are at his disposal. We would suggest that they be treated in a similar manner as recommended for those of the Osage orange, at p. 105 of the present number; and for future sowing, when the haws are ripe, to mix them as soon as gathered, in a heap of earth, where they must remain for a whole year, turning them over several times in the course of that period, in order to facilitate the decomposition of the pulp and husk. They may then be separated from the earth and sown in beds of finely-prepared soil, and covered to a depth of about one fourth of an inch. Thus treated, when sown in the autumn of the second year, they will vegetate the following spring.

CULTIVATION OF POTATOES.

MR. JOHN W. BAILEY, of Plattsburgh, N. Y., in an interesting article on the culture of the potato, which we regret to condense, for want of space, recommends that all lands, designed for that plant, should be thoroughly drained, so that water will not stand upon any part of the field; that a good soil, inclining to sand, gravel, or loam, is to be preferred, avoiding clay, and even a clayey subsoil, if possible, as they do not permit the water to pass off so soon as required. The ground, he says, should be plowed and planted as early in the spring as practicable; and the potatoes dug as soon as they are ripe; after which they should be put in a dry and airy place, and kept until cold weather makes it necessary to remove them to the cellar, where they should be kept as cool as possible without danger of freezing.

In the selection of seed, he makes choice of the hardiest varieties, and for the last two years, he has applied lime, plaster, and wood ashes, in the hill, at the time of planting, with good results.

HOT LYE A REMEDY FOR THE PEACH BORER.

—MR. J. S., of Stockholm, N. J., writes us that he heard of a well authenticated case, in which a woman, laboring under the maddening influence of jealousy, deliberately took an axe, and levelled to the ground, a fine young orchard she had helped to plant; and being intent, also, upon the destruction of some favorite peach trees, then beginning to decay, she prepared a strong lye and poured it, while hot, about their roots. But what was her surprise, when she found that the trees put forth, flourished, and bore more fruit that year than they were ever known to do before.

CARE OF STOCK.—MR. W. G. B., of Newark, N. J., recommends that pigs have a warm place and a clean dry bed. "A pig," he says, "does not love dirt for dirt's sake, and will thrive much better if kept clean." He further says, "A dirty hide will waste a cow's flesh faster than food will add to it. * * * Curry cows every day and keep them perfectly clean, for filth and thrif are ever opposed."

Ladies' Department.

TO THE YOUNG.

"Have I not seen thy needle piled
With as much ready glee
As if it were thy greatest pride
A maistrass fumed to be?
Did I not eat pies, puddings, tarts,
And bread, thy hands have kneaded?
All excellent, as if those arts
Were all that thou hadst heeded."

A WIFE, who has had some experience, would suggest to the young ladies of the present day, the very great importance of some practical knowledge of housekeeping, without which, no woman, who is at all conscientious, can be happy, either as a wife, or a mother. So much of the actual comfort and happiness of those dearest to us, depend upon the trifling everyday occurrences to be met with in all families, that it behooves every woman to endeavor to possess that information most necessary to ward off many of the petty annoyances by which housekeeping is surrounded. The self-conceit of servants, who think they are better informed than their mistress, and are shrewd in finding out how far she can venture to direct without displaying her own ignorance, is one of the most prominent evils of the present time. Very few men, are there, of common sense, who would not willingly part with some of the useless accomplishments of a wife, for the very unfashionable one of being a good housekeeper—not that I condemn any accomplishment which would tend to make a woman more refined, more pleasing, or add one ray of intellect to her brow. But I do condemn the false idea entertained by many, that a lady is not a lady, when she condescends to take an interest in household arrangements, upon which the happiness of her family and the well-being of all around her depend.

How proudly, and how cheerfully goes that man forward to his daily business, who is confident that he leaves behind him, in the partner of his joys and cares—one who has his interest and his happiness so deeply at heart, that all other things fade in comparison, and that as surely as he returns at night, so surely will he find a well-ordered home to receive him. And let him be a professional man, a mechanic, a farmer, or an artisan, there is a charm about such a home, that few can resist, and fewer still, will not appreciate and love. I appeal to all wives—Is it not worth a trial? Is it not a noble cause? To see

Our abode,
The tabernacle of our earthly joys
And sorrows, hopes and fears, this home of ours—
Is it not pleasant?

If a pie or pudding tastes better to a parent or husband when made by the hands of a daughter or wife, let no lady suppose (fashionables and exquisites to the contrary notwithstanding), that she at all detracts from her character, if she is able to enter her kitchen, where an ignorant servant wishes a minute direction regarding anything which is to tend to the comfort of the family. Let no lady suppose she at all derogates from her character by being able to give the desired information. If a merchant's, grocer's, or baker's bill comes in, let no lady think she demeans herself, by examining it; for sometimes mistakes will happen, with

the best intentions, and if she neglect so great a duty, who is to attend to it? Who is to be answerable for waste and extravagance? Surely not the poor servants, who are unfortunate enough to have careless mistresses—surely not the husband, or father, whose employment calls him elsewhere—surely no one, but the female head of the family, be she mother, daughter, or wife. On her rests the responsibility, and it is a responsibility so great to those who feel or think rightly, that I would have all the young daughters of America, fully aware of its importance; and all young wives feel that certain hours of the day must be devoted to the plain, practical realities of everyday affairs. Happy is the woman who feels this a pleasure as well as a duty. No manners need be less refined; no accomplishments less brilliant; no mind less cultivated; no heart less happy; no home less attractive; and surely no husband less devoted, nor father less proud, from the fact that the wife, or the daughter, is a first-rate housekeeper. And such can all be, who will make the effort and persevere in it. If difficulties arise, conquer them. If the temper be tried, bear it patiently as may be; but of all things do not give up, nor be disheartened at a few disappointments. In a very short time, the mountains will dwindle into molehills; and take the word of a happy wife—you will be amply repaid for the exertion you have made. A FRIEND.

THE EFFECTS OF COSMETICS ON THE SKIN.

THAT your excellent correspondent, E. S., in the March number of the *Agriculturist*, does not write understandingly when she speaks of rouge, as a beautifier of the skin, is evident; or she would not have intimated that this harmless substance cannot be employed without injury to a lady's complexion. Any intelligent physician, chemist, or apothecary, will tell her that the coloring matter of the true rouge for the toilet is nothing but an extract from safflowers, and "is the only article which will brighten a lady's complexion without injury to the skin." I am perfectly aware that there are several articles sold under the name of "rouge," which are highly improper to be used. Among these I would name the following:—

1. *Rouge Indienne* (terra persica), or Indian red, imported from Ormuz.
2. *Liquid Rouge*, the red liquid left from the preparation of carmine; or a solution of carmine, in a weak carbonate of potash water; or of pure rouge dissolved in alcohol and acidulated with strong white vinegar.
3. *Rouge de Prusse*, or burnt yellow ochre.
4. *Spanish Lady's Rouge*, a floc of cotton or lint, wet with an ammoniacal solution of carmine, and dried. All of these preparations should be avoided, and none used but the genuine extract of the safflower.

It may appear strange, Mr. Editor, to the *Estwah* correspondent, as well as to many of your readers, that I should have recommended the application of prepared magnesia, or even finely-powdered starch, and rouge, as beautifiers of the skin; but when they reflect that thousands of our country-women, are daily using, and will continue to use a great variety of pernicious compounds, sold under the enticing names of "pearl white," *creme de rose*, &c., for the purpose of preserving or restoring their

beauty, they cannot but agree with me in saying that, "of all evils, choose the least;" or in other words, if cosmetics are to be used, employ those which do the least harm. This is the only apology I have to offer for what I have written, and here I shall let it rest. C.

ALMOND PASTE FOR THE TOILET.—Pour boiling water upon a pound of fresh almond kernels, then throw them into cold water, and slip off the skins; beat them fine in a marble mortar, with a sufficient quantity of distilled rose water, added gradually, to prevent them from becoming oily; mix in a quarter of a pound of finely-drained honey, and keep it in wide-mouthed bottles, well corked. After the skin has been washed with soap, or exposed to the keen, frosty air, a little of this preparation, well rubbed on, restores the pliancy and comfortable feeling; and it is really as harmless as it is pleasant. E. S.

Eutawah, March, 1848.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 1.

Boys, it is my design to write you some letters on the subject of chemistry, as applied to agriculture. I hope you will not be prevented from giving attention to what I shall say by the supposition that the subject is one beyond your comprehension, and of little consequence; for I trust to be able to explain the science in such a manner as to make it perfectly intelligible, and if you suppose there is little advantage in this kind of knowledge, I hope, also, to be able to convince you to the contrary. It is a common complaint among farmers, old and young, that much of the matter of agricultural journals is too scientific; they find many words of which they do not know the meaning, and which, perhaps, are not contained in common dictionaries; consequently they are unable to derive any instruction or advantage from some of the more learned and valuable essays. My object in these letters will be to simplify the science, so that all who read can understand; but before proceeding to scientific details, it is important that you should have some idea of the advantage and utility of this kind of knowledge, and know what end is to be gained, and what practical benefits are to be derived from it. I shall, therefore, in this letter, confine myself to some general observations.

Agricultural chemistry, you know, treats of the nature of plants, and the best methods of cultivating them. By *plants*, I mean all vegetation. There are two great sources from which all plants and trees derive their support, and they can derive it from no other; the one is the *atmosphere*, the other the *soil*. You, will, therefore, bear in mind, that no vegetable can contain a particle of matter which has not before existed (though perhaps in a very different form), either in the air that surrounds it, or the soil where it grows. If then, we can discover what plants are composed of, we shall know what kind of food or nourishment they require. Among domestic animals, you have observed that different species require, and indeed, must have, different kinds of food; and in some cases it is literally true, that

"what is meat for one is poison to another." Now it is precisely the same with vegetables; and the practical advantage to be expected from agricultural chemistry, is, the knowledge which shall enable you to adapt your crops to your soil, and to apply to each kind of grain, you cultivate, its appropriate manure. In the March number of the *Agriculturist*, p. 87, you will find an excellent illustration of the advantage of science to agriculture. The same experiment which Mr. Colt tried with the grape vine, may be tried with any other plant, and experiments with different kinds will show that their wants are as various as their species.

Much knowledge, it is true, has been gained by experience; but science can furnish a vast deal more. Those who rely wholly on the former will often find themselves entangled in difficulties, and meet with disappointment where they were most confident of success; while those, on the other hand, who confide in science [not quackery], will have a guide which can never lead them into error. You will be more convinced of the importance of chemistry to agriculture as you proceed, and you will often wonder why the subject has not received more attention from those who are indebted to the soil they till for their support. But a spirit of inquiry is awakened. People are becoming distrustful of the antiquated notions of their ancestors, and are beginning to test the soundness of old dogmas by science and experiment—two powerful engines, which are destined to give origin to greater advancements in agriculture than have ever yet been made.

I would say, therefore, to every farmer, and especially to the young, neglect no opportunity of enlightening the mind on this all-important subject. The basis of the knowledge you most need, and the path to that eminence in your calling to which you aspire, lie in the discoveries and teachings of chemistry. It will be my endeavor to make you familiar with some of the most essential parts of this science, and to prepare you for receiving still further benefits from more elaborate and learned productions. I shall omit many details, and often state facts without explaining the process by which they have been obtained. Should your curiosity be awakened to know more on this subject than I shall communicate, I would refer you to Petzholdt's *Lectures on Agricultural Chemistry*, published by Greeley & McElrath, of New York, and afterwards to the works of Johnston, Liebig, and Turner.

I told you that plants derive all their food from the air and the soil; you perceive, therefore, how important it is to understand fully the nature of these two great sources of vegetable life. In my next letter, I shall make you acquainted with the ingredients which compose the air.

I would here say, that it will be necessary for me occasionally to enter into details, the use or bearing of which you may not at first discover; still I would request you not to pass anything by with indifference; for it is not my design, nor will my necessary limits permit me to introduce matter which has not a close connexion with the end in view, or which is not of sufficient moment to be worth an effort to remember.

J. McKINSTRAY.

*Greenport, Columbia Co., N. Y.
March 1st, 1848.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Britannia*, we are in receipt of our foreign journals to 12th of February.

MARKETS.—The only important change which we notice since our last, is a rise in cotton of $\frac{1}{4}$ d. per lb.

Money was not worth more than 3 to 3 $\frac{1}{2}$ per cent. on the best securities. A great want of confidence still prevailed throughout Europe. Large failures had nearly ceased, and they were looking for a gradual improvement in business.

Salt Applied to Asparagus.—Salt should not be applied to asparagus at the time of making the beds; but when the plants are growing—frequently, and in small doses. Water no saltier than that of the ocean is what is recommended.—*London Agricultural Gazette*.

Comparative Value of Human Food.—According to Dr. Lyon Playfair, at London prices, a man can lay a pound of flesh on his body with milk, at 3s.; with turnips, at 2s. 9d.; with potatoes, carrots, and butchers' meat, free from bones and fat, at 2s.; with oatmeal, at 1s. 10d.; with bread, flour, and barley meal, at 1s. 2d.; and with beans at less than 6d.

An Old Raven.—The "Journal de Rheims" says that the other day, a gentleman captured a raven, round the neck of which was a silver plate, with an inscription in English,—"This raven, caught by Capt. Duncan, of the Scotch Guards, in the garrison, at Rheims, was set at liberty, Jan. 7th, 1843."

Wine Making in New South Wales.—Such is the extent to which vineyards have been planted in New South Wales, that a single landowner, Mr. McArthur, has made, in one year, 17,000 gallons of wine, some of which when bottled, has been sold for 20s a dozen, at Sydney.

A Splendid Market at Paris.—The municipality of Paris is about to build a splendid central market, which will cost 20,000,000, francs (\$3,700,000), and will require ten years for its erection.

Growth of Cotton in India.—We understand advices from India have been received at Manchester, stating, on the authority of the government collector of the Dharwar district, that there are at present at least 20,000 acres of New Orleans seed cotton under cultivation in that district; and that, had it not been for the deficient fall of rain last monsoon, there would have been at least 60,000 acres under cultivation. The cultivation of cotton is also extending fast into the Nizam's country.

Amount Paid for Dutch Butter by England.—England pays to Holland, Belgium, and Holstein about \$3,500,000 per annum for butter.

Amount of Grain Raised in France.—France produces annually 231,000,000 bushels of wheat, and 369,600,000 bushels of inferior grains.

Fecundation of the Eggs of Poultry.—If any of your readers have seen a hen, in full laying, dissected, they might have observed that the ovary was composed of a mass of yolk bags, resembling a bunch of grapes, but with this difference, that the yolk bags varied in size from an inch in diameter down to a pin's head, and often smaller. Now, that these yolk bags, hardly visible themselves, should be capable of having their contents fecundated is contrary to reason, and has not been allowed by any physiologist that I know of.

In the case of the bee, there is appended to the oviduct a reservoir or sac, which, when once filled, is sufficient for the vivification of all the eggs in the ovary; this taking place as the egg passes the mouth of the sac in its course down the oviduct. Birds, not being furnished with a similar apparatus, cannot have more than a few of the germs fecundated at a time—only those that are in a sufficient state of forwardness; but where to fix the limit, how many days before lay-

ing, can only be ascertained by experiment. My belief is, that two or three of the first might prove fruitful; but this your correspondent may rest assured of, that no hen could in the normal state lay 100 or 150 eggs from which chickens might be reared after the death of the cock or cocks, as those eggs which do not possess an embryo before his death cannot do so after. Those, who believe and assert the contrary, must have been deceived by the unseen visits of some neighboring cock, which, regulating them according to the known hours of the master's inspection of his hens, eluded his prejudiced gaze.—*Gardeners' Chronicle*.

Effects of Turnips on Ewes with Lamb.—Three years ago, when turnips were very abundant, a flock master of Berwickshire, Scotland, allowed his black-faced ewes (Cheviots), which are seldom in high condition, nearly as many as they could eat, for about eight weeks before lambing, and the consequence was, that he lost a considerable number of ewes from this overfeeding, having caused the horns of the tup lambs to grow so much, that some of them never could be born; and others were so much injured that they inflamed and died. The horns of the new-born lambs, in some instances, were three inches long; but in general they were not more than two. This exuberant growth of horns was doubtless owing to the excess of phosphate of lime, which existed in the food of their dams, as it is well known that this substance, in the turnip, largely abounds.

The Mode in which Sulphuric Acid Increases the Fertilizing Influence of Bone Dust.—It has been found that bones, in a heap with moistened ashes or sand, ferment so intensely, as soon entirely to lose their structure and form. In this state they have acquired greatly more power as a manure. In one case 17 bushels of bones yielded a crop of 13 $\frac{1}{2}$ tons of turnips per acre, while the same crop was obtained from half the quantity of bones that had heated in sand. In another case 14 $\frac{1}{2}$ tons of turnips followed the application of 25 $\frac{1}{2}$ bushels of bones, while 12 $\frac{1}{2}$ bushels heated in sand yielded a crop of upwards of 17 tons per acre. In the former case 4 $\frac{1}{2}$ bushels of "sulphated" bones produced 14 $\frac{1}{2}$ tons of roots, and in the latter 7 $\frac{1}{2}$ bushels of "sulphated" bones produced a crop of 14 $\frac{1}{2}$ tons. The explanation is this. In the course of it, let it be assumed that the value of the bones, as a manure, is mainly due to the phosphorus with which they furnish the plant. The chief constituent of bone dust is phosphate of lime, a compound of phosphoric acid and lime, which is insoluble in pure water, and which, therefore, if rain water were pure water, would be useless as a manure. Lime will unite with two different proportions of phosphoric acid; and though as phosphate of lime it is insoluble, as biphosphate (that is, united with a double quantity of phosphoric acid), it is very easily soluble in water. And the advantage of adding sulphuric acid to bones is simply this—that it converts the insoluble phosphate which they contain into the soluble biphosphate. From one portion of the phosphate of lime it detaches the phosphoric acid, and, taking its place, unites with the lime thus isolated, forming gypsum, while the phosphoric acid which it has detached combines with another portion of phosphate forming a biphosphate. Bone earth thus treated, therefore, contains phosphorus in a soluble form, and the turnip plant has an abundance presented to it by every shower which penetrates the soil in which the manure has been deposited.—*Agr. Gazette*.

Starch from Diseased Potatoes.—Starch made from diseased potatoes, it is said, has been found to injure silk goods when used to stiffen them. The goods are covered with spots, which, when examined through a microscope, present the same fungus that is found in the diseased potato.

Editor's Table.

THE CAST-IRON PLOW.—A bill has recently passed the Senate of the United States, and is now pending in the House of Representatives, to extend the patent of Jethro Wood, for seven years, which he obtained in 1814, and renewed in 1819, and again in 1833, for fourteen years, claiming to have invented the cast-iron plow share, &c. This bill proposes to grant to the heirs of Jethro Wood, the privilege of exacting *fifty cents* from the manufacturer, for every cast-iron plow made in the United States, for seven years after the passage of said bill.

As there are about four millions of farmers and planters at present in the United States, and as each would require on an average at least one plow every four years, this privilege would be worth **HALF A MILLION OF DOLLARS ANNUALLY**, all of which would be taken from the hard earnings of the planter and farmer! And what makes the matter more unjust, is, that a large share of the interest of the heirs of Wood in this patent, has been purchased for a mere song; thus nearly the whole benefit of it will inure to a company of greedy speculators.

But Jethro Wood, as is shown at page 121 of this number of our paper, was not the original inventor of the cast-iron plow share, nor did he ever improve the plow in the slightest degree; he was consequently entitled to no merit in this thing, and much less to a patent; and had the facts of the case been known by the Commissioner of Patents, in 1814, he would not have granted him one, nor renewed it in 1819, nor would Congress have extended it for fourteen years in 1833; neither would the United States Court have confirmed him in it after it had been granted.

With these facts before them, the public will now see how great an injustice it would be for Congress to extend the patent of Jethro Wood, and give his heirs, or rather a company of *greedy speculators*, the privilege for seven years, of exacting fifty cents per plow from every one engaged in their manufacture. Jethro Wood has enjoyed the benefit of his patent for thirty-three years, which we think quite enough. During this time he and his family have drawn large sums from the public, and it is about time now, that these exactions should cease.

The Legislature of New York and the State Agricultural Society, have passed resolutions against the passage of this bill, and have requested the New York Members of Congress to vote against it. We observe, also, that the measure is generally denounced by the press throughout the country.

We hope every one will read our articles on this subject with attention, and aid in spreading the facts before the public; for the hard-working farmer and planter ought to be immediately apprized of what so vitally concerns them. We invite all those who are opposed to injustice and special privileges, to assist in the defeat of so iniquitous a measure, and thus defend the farmer's rights.

HOVEY'S FRUITS OF AMERICA.—The fourth number of this excellent work has been received. It treats of the Early Crawford Peach; the Doyenné Boussock Pear; the Tyson Pear; and the Red Astracan Apple. Each number contains four splendid engravings representing the twigs, leaves, and fruits, printed in colors, with numerous wood cuts denoting the appearance of the trees, outlines of fruits, &c. The descriptions, accompanying these plates, are more accurate, more complete, and consequently more valuable to the American fruit grower, than those in any other publication with which we are acquainted. The illustrations, also, are sufficiently well execu-

ted to identify the kinds of fruit described, and that is all we need.

PLUM TREES KILLED BY SALT.—We understand that Judge Cheever, of Saratoga county, N. Y., seeing a statement in some paper, that salt was an excellent fertilizer for plum trees, killed severable valuable ones the past season, by scattering a gallon of that substance over the roots of each tree.

KEEPING BEEF FRESH.—In preserving beef, the *ribs* will keep longest, or five or six days in summer; the middle of the *loin* next; the *rump* next; the *round* next; and the shortest of all, the *brisket*, which will not keep longer than three days in hot weather.—*Combe.*

TO PRESERVE WATER IN SEA CASKS AND CISTERNS.—It is said that water may be preserved quite pure, either on long voyages, or in cisterns, by the addition of about 1 lb. of black oxide of powdered manganese to 1,000 gallons; stir it well together, and the water will lose any bad taste it may have acquired, and will keep for an indefinite length of time.

DISEASES OF CATS.—Cats are seldom ill, except from cold, which generally gets well without any particular care being taken of it; but where they have any serious disease, it generally proves fatal.—*Mrs. Loudon.*

HOW TO ENLARGE VEGETABLES.—A vast increase of food may be obtained by managing judiciously, and systematically carrying out for a time the principle of increase. Take, for instance, a pea. Plant it in a very rich ground. Allow it to bear the first year, say half a dozen pods only. Remove all others. Save the largest single pea of these. Sow it the next year, and retain of the produce three pods only. Sow the largest one the following year, and retain one pod. Again select the largest, and the next year the sort will by this time have trebled its size and weight. Ever afterwards sow the largest seed. By these means you will get peas (or anything else), of a bulk of which we at present have no conception.—*Exchange Paper.*

A NATURAL COW DOCTOR.—In the case of Maynard vs. Litchfield, to recover damages for the loss of a valuable cow, the Boston Daily Advertiser reports one witness to this effect:—"The testimony of this witness (Dr. Stoddard), was as follows:—'I live in Scituate, and am sixty years of age. I am a cow doctor. I have followed the business these forty years. I doctor sheep, hogs, and horned critters. I set broken bones, joints, &c. I never read no books on critters. I took the business up kind o' nat'ral. I doctor in Scituate, Hanover, Hanson, and all about. Mr. Maynard and Mr. Litchfield came to me about this cow. I told them to give her a pint and a half o' castor ile, and if they had'n't got that, to give her a pint o' lamp ile, or a pound o' hog's lard. I went down to see her the day afore she died. I gave her a dose of thorough-stalk tea, strong. I went to see her agin on Saturday, and dosed her agin. I thought if I could start her ideas up a little, and kind o' jog natur, she might get along. She revived up a little, and I left her. I went down agin Sunday mornin', got there about half arter ten, and found her dead as a herrin'. I was mighty struck up. We skun her, and snaked her out upon the snow. I then cut her open, and examined her. She had what I call the overflow of the gall. I found a bushel basketful o' fox-grass hay, and nothin' else, in her intrils. I found a peck more in the manifold, all matted down and dried on. My neighbors use this kind o' hay. It will do for young critters that browse, but I never see any living critter touch it growin'. Even grasshoppers will run from it for life. I took some sperits down with me, Sunday mornin'. The cow having no further use for any, I took a dose myself.'"

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MARCH 15, 1848.

ASHES, Pots,.....per 100 lbs.	\$5 88	to	\$6 00
Pearls,.....do.	8 00	"	8 08
BALE ROPE,.....lb.	6	"	8
BARK, Quercitron,.....ton.	35 00	"	38 00
BEANS, White,.....bush.	75	"	1 38
BEESWAX, Am. Yellow,.....lb.	93	"	25
BOLT ROPE,.....do.	11	"	12 1/2
BONES, ground,.....bush.	45	"	53
BRISTLES, American,.....lb.	95	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	12	"	14
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....9000 lbs.	5 00	"	6 00
CORDEAGE, American,.....lb.	11	"	13
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,.....yard.	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	7 1/2	"	9
FLOUR, Northern and Western,.....bbl.	6 31	"	6 62
Fancy,.....do.	6 50	"	7 00
Southern,.....do.	6 25	"	6 50
Richmond City Mills,.....do.	7 44	"	7 50
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 88	"	4 00
GRAIN—Wheat, Western,.....bush.	1 35	"	1 50
Southern,.....do.	1 25	"	1 40
Eye,.....do.	84	"	88
Corn, Northern,.....do.	54	"	56
Southern,.....do.	50	"	56
Barley,.....do.	78	"	85
Oats, Northern,.....do.	48	"	50
Southern,.....do.	40	"	45
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.	60	"	65
HEMP, Russia, clean,.....ton.	225 00	"	235 00
American, water-rotted,.....do.	180 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....lb.	5	"	8
HORNS,.....do.	2 00	"	10 00
LEAD, pig,.....do.	4 25	"	4 50
Sheet and bar,.....lb.	4 1/2	"	5 1/2
MEAL, Corn,.....bbl.	2 44	"	2 75
Corn,.....hhd.	14 50	"	15 00
MOLASSES, New Orleans,.....gal.	25	"	27
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	81	"	1 09
Rosin,.....do.	70	"	80
Turpentine,.....do.	2 88	"	3 12
Spirits Turpentine, Southern,.....gal.	30	"	43
OIL, Linseed, American,.....do.	63	"	66
Castor,.....do.	1 20	"	1 25
Lard,.....do.	80	"	85
OIL OAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 00	"	1 50
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	8 25	"	12 00
Prime,.....do.	5 25	"	7 50
Smoked,.....lb.	5	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	9 75	"	12 00
Prime,.....do.	6 50	"	9 00
Lard,.....lb.	7	"	9
Bacon sides, Smoked,.....do.	6	"	8
In pickle,.....do.	5	"	7
Hams, Smoked,.....do.	8	"	13
Pickled,.....do.	6	"	10
Shoulders, Smoked,.....do.	6	"	9
Pickled,.....do.	5	"	7
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack.	1 45	"	1 55
Common,.....bush.	90	"	35
SEEDS—Clover,.....lb.	5	"	8
Timothy,.....bush.	1 75	"	3 80
Flax, clean,.....do.	1 50	"	1 85
rough,.....do.	1 40	"	1 45
SODA, Ash, contg 80 per cent. soda,.....lb.	1	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....ton.	35 00	"	37 00
SUMAC, American,.....do.	9	"	10
TALLOW,.....do.	2 1/2	"	8
TOBACCO,.....do.	23	"	24
WHISKEY, American,.....gal.	25	"	30
WOOL, Saxony,.....lb.	20	"	25
Merino,.....do.	20	"	25
Half blood,.....do.	18	"	20
Common do,.....do.	18	"	20

REMARKS.—Flour and Cotton have advanced slightly since our last; while Corn, Hay, and Provisions have somewhat receded. The market is rather inactive.

Money continues difficult to be obtained at legal interest, except on first class city paper.

The Weather is fine, but cold for the season. Considerable Wheat has been winter killed the past season; it is too early as yet, however, to speak of the prospects of this crop.

TO CORRESPONDENTS.—Communications have been received from H. Cooke, E. S. E. L. Allen, J. McKinstry, F. R. S., Sergeant Teitme, H. D., Solon Robinson, P., John Cooper, and J. S. Peacocke.

E. W. A., of Panama, N. Y.—The plant you inquire about, is what is called silk grass, or milk weed (*Asclepias sericea*), and may be destroyed by pulling it up by the roots. As its root endures in the ground for several years, no advantage will be derived from cutting off the tops except in preventing others from growing from seeds. The other information you ask, we cannot conveniently answer.

Diseases of Cattle.—F. of Fairfax, Va.—The symptoms which you describe of the ox you lost are not sufficiently definite for us to know of what disease he died. What you say is true—one grand deficiency in our agricultural writers, is, in not treating more at length on the diseases of animals. Those who are familiar with the symptoms during the various stages of a disease, might so describe them that its nature might be known and a remedy seasonably applied.

ACKNOWLEDGMENTS.—The Annual Report of the Buffalo Horticultural Society for the year 1847; with the Address of L. F. Allen, delivered before said Society in September last.

LIST OF ENGLISH EDITIONS OF AGRICULTURAL AND HORTICULTURAL WORKS,

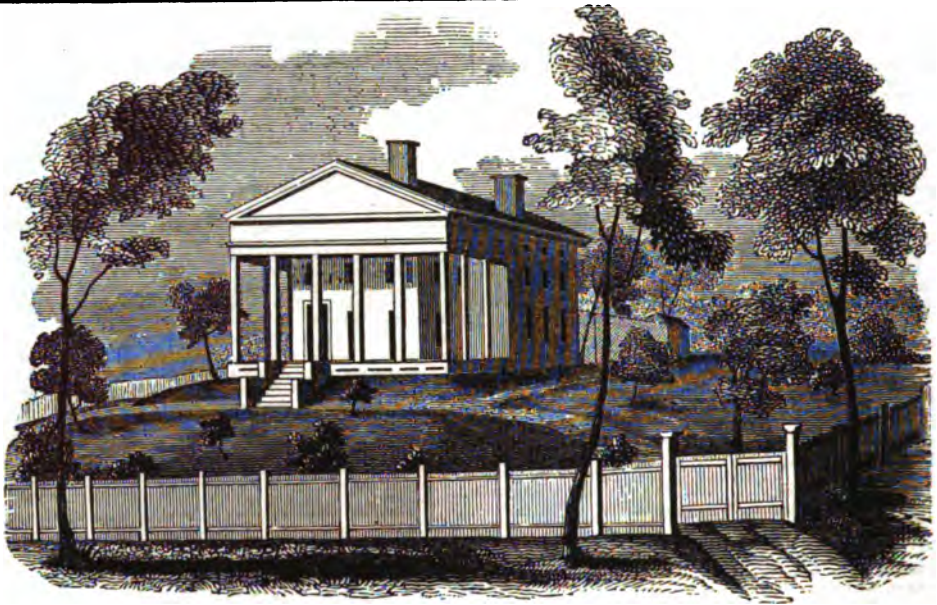
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, MAY, 1848.

NO. V.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway

TIME FOR PLANTING INDIAN CORN.

THE time of planting Indian corn varies, according to the locality or season in which it is intended to grow. In the southern portions of the United States, it is generally planted in January or February, whereas, at the extreme north, or east, it is not usually done before the latter part of May or early in June.

It is a rule with many, to make the flowering or unfolding of the leaves of vegetation, and the appearance, or pairing, of certain birds, as natural guides. For instance, some plant when the apple tree is bursting its blossom buds, or when the June berry or shad bush is in full blow; others adhere to the old Indian rule, in planting as soon as the leaf of the white oak is of the size of a squirrel's ear; while not a few listen to the notes of the whip-poor-will and cuckoo, as unerring guides. But we have ever found, from experience, that a period somewhat later than those just named, when the ground has become sufficiently warmed by vernal heat to cause a speedy germination of the seed, is far more favorable and safer from late frosts and the depredations of blackbirds and crows. Corn, planted in the middle and northern states, from the 20th of May to the 1st of June, with proper management, can be made to vegetate in four or five days, and in a week more, will be large enough to weed. If planted too early, it will often lie in the ground two or three weeks before it will come up, and by the middle of June, it will not be near so large nor vigorous as that planted towards the end of May.

Previous to planting, the germination of the corn may be hastened by steeping it, as directed at pp. 54, 90, of the current volume; and the kernel may be completely protected against the ravages of grubs, wire worms, birds, squirrels, &c., by smearing it over with tar, dissolved in boiling

water, and then rolling it in powdered plaster until it is dry. Thus treated, it has been known to come up in 24 hours.

CULTIVATION OF TOMATOS.

THE common love apple, or tomato (*Lycopersicon esculentum*), is a native of South America; and, like the potato, is extensively cultivated in every climate in which it will mature. The different uses of its fruit, for culinary and other purposes, are so varied, that it serves as a dainty dish every day in the year. Therefore, it is for the interest of the farmer, the planter, and the market gardener to employ the best and the most expeditious means at their command, to produce as early a supply as possible; and, also, to continue its culture as late as the season will permit.

Choice of Varieties.—The varieties most esteemed and in general cultivation may be noted as follows:—

1. *Large Smooth-skinned Red*, an excellent variety, differing from all other large sorts, in having a smooth skin entirely free from protuberances or inequalities of any kind.

2. *Common Large Red*, with the fruit depressed at both ends, furrowed on the sides, and varying in circumference, from three to eighteen inches. It is a prolific bearer and is universally cultivated.

3. *Pear-shaped, Pink-red*, a variety much smaller than either of the preceding, very fleshy, and contains fewer seeds. It is considered equally as good for stewing; and for pickling, it is much preferred.

4. *Cherry-shaped Red*, a variety bearing a beautiful little fruit, much resembling a cherry in size and appearance, and is usually cultivated expressly for pickles.

Soil and Culture.—The soil best adapted for the growth of the tomato, is a light, rich, sandy loam,

previously well worked and manured. In order to obtain early fruit, the seeds should be sown in a hot bed, or in boxes of light, rich earth, set at the kitchen windows, about the middle of March or the beginning of April. The bed, or boxes, should be exposed to the rays of the sun as much as possible, but at all times secure from frost, and the young plants should receive an abundance of fresh air in the middle of the day. If the seeds are but slightly covered with earth, they will soon shoot up 2 inches in height, when they may be pricked out, 3 inches apart, into another hot bed, or singly into small boxes, or pots, placed near the kitchen windows, so that they may grow more stocky and the better be removed. It will be necessary to sprinkle them occasionally with water, as the soil becomes dry, and to stir the earth often about their roots. As soon as the season will permit, without danger from frosts, say by the latter part of April or early in May, they may be carefully transplanted into open ground, with a ball of earth attached, setting them in a row, 3 feet apart, from plant to plant, along the southerly side of a close fence, or in some other sheltered place, where they can receive the full benefit of the sun; or they may be planted in hills at 4 feet distant each way, care being observed to defend them, if the nights be cold, by mats, hand glasses, or pots.

Those who have not the conveniences for forcing the plants, as directed above, may bring them to perfection by sowing the seeds in hills, in a warm, light soil, the last week in April or first week in May; and if the situation be favorable, with good management, the yield will be abundant, but later than by the other mode two or three weeks. An ounce of seeds will produce, at least, 60 good healthy plants.

In the course of the season, the plants may be thinned out, one to each hill; cultivated or hoed in a similar manner as the potato; and, as soon as the vines begin to run, they may be trained on a fence, or trellis; or what would be more convenient in an open garden or field, to allow each plant to rest on a hoop, or square frame, supported on small crotches driven into the ground. In order to hasten the maturity and size of the fruit, the tip ends of the earlier plants should be nipped off, as soon as the young tomatoes are set.

Those living in a high latitude, may set their plants at the foot of a bed, sloping steeply towards the south, and as the vines begin to run, peg them down close to the surface of the soil, where they will frequently strike root at their joints. As soon as the branches of the vines meet, their tips must be cut off, the lateral shoots removed, and their leaves thinned out, in order that the fruit may become well ripened by exposure to the sun. Under favorable circumstances, each plant, so treated, will often produce 20 lbs. of fruit.

For further information on the culture and use of the tomato, see pp. 90, 91, vol. i.; pp. 269, 282, 303, vol. v.; and pp. 253, 254, vol. vi., of the Agriculturist.

CARE OF FRUIT TREES.—Do not forget to apply leached ashes, charcoal, and oyster-shell lime to the roots of your fruit trees. See also that the moss and scaly bark is carefully removed from their trunks.

APPLE ORCHARDS.—NO. 8.

Attacks from Caterpillars.—The tender buds and young leaves of the apple tree are sometimes attacked, in May and June, by multitudes of small caterpillars, described by Dr. Harris, under the name of the eye-spotted penthina (*Penthina oculana*). They are of a pale and dull-brown color, warty and slightly downy, with the head and the top of the first ring of a dark shining brown. They usually acquire their growth by the middle of June, at which time they transform, and come out in the winged state early in July. These caterpillars live singly in the buds or opening foliage, which they fasten together and devour. The only sure mode recommended to destroy them is, to crush the withered clusters of leaves containing them or their chrysalides, and thus "nip them in the bud."

The apple tree is also infested by the larvæ of the white-marked orgia, or tussock moth (*Orgia leucostigma*). These small, slender caterpillars are of a bright yellow color, and are sparingly clothed with long and fine yellow hairs on the sides of their bodies. The females, in the adult state, though seemingly wingless, have two little scales, or stunted wings, while the males have large ashen-grey wings, the upper pair of which, are crossed by dark wavy bands, with a small black spot near the tip, and a minute white crescent near the outer hind angle. The body of the male is small and slender, with a row of little tufts along the back, and the wings expand one inch and three eighths. The females are of a lighter grey than the males, and their bodies are much thicker, and are of an oblong-oval shape. Different broods of these insects appear at various times, in the course of the summer, but the greater number come to maturity and lay their eggs in the latter part of August and the beginning of September, which are not hatched before the following spring. It is stated by the late Mr. B. H. Ives, of Salem, Massachusetts, in vol. i., p. 52, of Hovey's "Magazine of Horticulture," that on passing through an apple orchard in February, he "perceived nearly all the trees speckled with occasional dead leaves adhering so firmly to the branches as to require considerable force to dislodge them. Each leaf covered a small patch of from one to two hundred eggs, united together, as well as the leaf, by a gummy and silken fibre, peculiar to the moth." In the March following, he visited the same orchard, and as an experiment, cleared three trees, from which he took twenty-one bunches of eggs. The remainder of the trees he left untouched until the 10th of May, when he found the caterpillars were hatched from the egg, and had commenced their slow, but sure work of destruction. He watched them from time to time, until many branches had been spoiled of their leaves, and in the autumn were entirely destitute of fruit; while the three trees, which had been cleared of the eggs, were flush with foliage, each limb, without exception, ripening its fruit.

The American lackey caterpillar (*Clisiocampa americana*), where proper attention has not been paid to prevent its ravages, prevails to such an extent as almost entirely to strip the orchards of their foliage. This insect, from its abundance in all parts of the country, and being known almost ex-

clusively in common language, by the name of the *caterpillar*, requires no further description. Various methods have been recommended to destroy this pest, such as burning and crushing the nests, early in the morning, or at evening while the vermin are at their repose, and the collection and destruction, of their eggs in the winter, or early part of spring. If a liberal bounty for the collection of the eggs were to be offered, as was suggested by the late Judge Lowell, and continued for the space of ten years, this enemy to our orchards, would be nearly exterminated at the end of that time.

Another insect, which may be called the tent caterpillar of the forest (*Clisiocampa sylvatica*), very much resembling the preceding in its habits, preys upon the leaves of the oak, the hickory, and more rarely upon those of the apple tree. Two other species of gregarious caterpillars, *Notodonta concinna* and *Pygera mlinistra*, of Harris, also swarm on the apple, cherry, and plum trees, towards the end of summer, stripping whole branches of their leaves. The caterpillar of the American lappet moth (*Gastropacha americana*), appears in September, and makes the leaves of the apple its food, which it only eats in the night. A large green caterpillar (*Atiacus cecropia*), also makes its appearance on the apple tree in the months of July and August, as well as upon the currant, the berry, the cherry, and the plum.

Attack from Canker Worms.—One of the greatest pests of our apple orchards, as well as of the foliage of the cherry, the plum, the linden, and other trees, is the canker-worm (*Phalena vernalis*), first described by Professor Peck, of Harvard University. According to Dr. Harris, the canker worm moths begin to make their appearance after the first hard frost in the autumn, usually towards the end of October, and they continue to come forth, in greater or smaller numbers, according to the mildness or severity of the weather, after the frosts have begun. Their general time of rising, however, is in the spring, beginning about the middle of March, but sometimes before, and at others after, this time; and they continue to come forth for the space of about three weeks. It has been observed that there are more females than males among those that appear in the autumn and winter, and that the males are the most abundant in the spring. The sluggish and wingless females instinctively make their way towards the nearest trees, and creep slowly up their trunks. In a few days afterwards they are followed by the winged and active males, which flutter about and accompany them in their ascent, during which, the two sexes pair. Soon after this, the females lay their eggs upon the branches of the trees, placing them on their ends, close together, in rows, forming clusters of 60 to 100 or more eggs, which is the number usually laid by each. The eggs are glued to each other, and to the bark, by a greyish varnish, which is impervious to water; and the clusters are thus securely fastened in the forks of the small branches, or close to the young twigs and buds. The eggs are usually hatched between the first and the middle of May, or about the time that the red currant is in blossom, and the young leaves of the apple tree begin to expand. The little canker worms, upon making their escape from the eggs, gather upon the tender leaves, and on the

occurrence of cold and wet weather, seek shelter in the bosom of a bud, or in the flowers, when the latter appear. The leaves, when first attacked, will be found pierced with small holes, which become larger and more irregular as the worms increase in size, until nearly all the pulpy parts are consumed.

A very great difference of color is observable among these worms of different ages, and even among those of the same age and size. When very young, they have two minute warts on the top of the last rings, and they are then generally of a blackish or dusky-brown color, with a yellowish stripe on each side of the body; there are two whitish bands across the head; and the belly is whitish. When fully grown, these individuals become ash-colored on the back, and black on the sides, below which, the pale, yellowish line remains. Some are found of a dull greenish-yellow, and others of a clay color, with slender, interrupted blackish lines on the sides, and small spots of the same color on the back. The head and feet partake of the general color of the body; the belly is paler. When not eating, they remain stretched out, at full length, and resting on their fore and hind legs, beneath the leaves. When fully grown, and well fed, they measure nearly, or quite an inch in length. They cease feeding when about four weeks old, at which time they begin to quit the trees. Some creep down by the trunks, but great numbers let themselves down by their slender threads from the branches, their instinct prompting them to get to the ground by the easiest and most direct course possible. After reaching the ground, they immediately burrow into the earth, to the depth of two to six inches, unless prevented by weakness, or by the hardness of the soil. In the latter case, they die, or undergo their transformations on the surface. In the former, they make little cavities, or cells, in the ground, by turning round repeatedly, and fastening the loose grains of earth about them with a few silken threads; and, within twenty-four hours afterwards, they are changed into chrysalides, and in due time, emerge from these retreats in their perfect forms.

In order to protect the trees from the ravages of the canker worm, the only thing that would seem necessary would be to prevent the wingless females from ascending the trunks to deposit their eggs. The expedients usually resorted to, for this purpose, are, to fit a close collar of lead, tin, wood, or other materials, around the trunks of the trees, or a circular trough filled with oil. The application of belts of tar, liquid India rubber, and other viscid substances, to the bodies of the trees, have been employed with partial success.

OPPOSITE PROPERTIES OF PLANTS AND ANIMALS.
—Vegetables are stationary; animals locomotive. Vegetables decompose carbonic acid, water, and ammoniacal salts; animals absorb them. Vegetables absorb heat and electricity; animals generate them. Vegetables produce the neutral azotized, or fatty substances, sugar, starch, and gum; animals consume them. In short, a vegetable is an apparatus of reduction, and an animal one of oxydation.—*Annales de Chim. et Phys.*

IMPROVED PUMPS FOR CISTERNS, OR WELLS.

THESE pumps, which are constructed entirely of metal, are 2½ inches in diameter within the cylinder, double-acting, and drawing water both at the upward and downward strokes. With a 6-inch stroke, it will raise from 10 to 15 gallons per minute, according to the height the water is required to be raised. By means of a horizontal pipe, leading to a distant well, or spring, the water can readily be brought to the house, or barn yard, provided the height between the spring and pump does not exceed twenty-five feet. The apparatus is so constructed, that it can instantly be converted into a force pump, by which the water can be conveyed at once to the upper parts of a house. Price \$25—air barrel and pipe extra.

CISTERN HAND PUMP.—This implement, which is denoted by fig. 31, is formed of cast iron, and answers an excellent purpose for raising water from a cistern, or elsewhere, from a depth of thirty-two feet. It works well with a 1½-inch pipe, made of lead, copper, tin, or wood. Price \$4.50—pipe extra.

SPRING BUDDING.

THE operation of budding fruit trees and shrubs may be performed as well in the spring as in summer—a fact of some importance, particularly when applied to the peach, the walnut, and other trees that cannot be grafted with success. Hence, it is obvious, that, by budding them in the spring, a year will be gained in their growth.

The buds intended to be employed for this purpose, should be preserved like grafts, in a cool, moist place, on slips, or cuttings taken from the tree a few weeks before the natural period of unfolding its leaves. As soon as the trees are so far advanced that the bark will separate freely from the wood, the buds may be cut out of the slips and inserted agreeably to the directions given at p. 208, of our third volume.

FIRE-PROOF IRON SAFES.

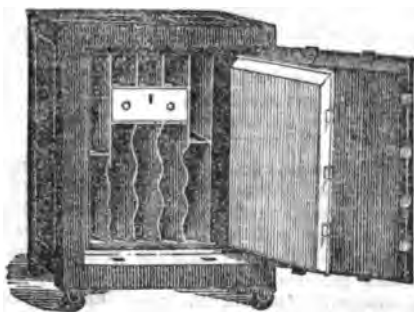


FIG. 32.

THESE almost indispensable safeguards to every

man of business, are made of various sizes, and will afford security for valuable papers, money, plate, jewels, &c., not only against fire, but when properly constructed, are proof against any ordinary attempt at robbery. Prices from \$12 to \$500.

THE CAST-IRON PLOW.

It is not often that a more unjust claim is made upon Congress, than that of the heirs of Jethro Wood, for a law to be passed to extend his patent of the cast-iron plow fourteen years longer, for their benefit.* By this law the heirs would have obtained the privilege of exacting a tax of fifty cents, on every cast-iron plow made in the United States, which would have probably given them *half a million of dollars annually*, all of which must have come out of the hard earnings of the farmer and planter. Owing to the Senate at Washington, not being properly acquainted with the facts of the case, a bill extending this patent passed it unanimously; but in the House of Representatives, members paid more attention to the merits of the case, and the result was, that a majority of the Committee on Patents reported against extending Wood's patent, and their report has been laid upon the table, where we trust it will sleep for this session. But as the partisans of this measure are very active, it behooves the farmers to be on their guard; and they will do well to forward petitions to their Representatives in Congress, praying them to oppose the extension of this patent, whenever the bill is likely to be called up.

At page 121 and 132, of our last number, we gave as much of the history of the cast-iron plow as we could then obtain; showing that others in England, and in this country, had preceded Jethro Wood many years, in the invention and use of it. Since the publication of our articles, Hon. John W. Farrelly, Chairman of the Committee of Patents, in the House of Representatives, at Washington, has made a report against extending the patent of Jethro Wood. In this we find a few facts before unknown to us, which we will state for the benefit of our readers.

Richard B. Chenaworth, of Baltimore, Md., in 1813, made the cast-iron plow complete in three distinct parts, viz: mould board, land side, and share, and then introduced them into use in many parts of Maryland and Virginia. We presume it was his plow, of which we speak, at page 122, of our last number, as having been in use in Virginia, as early as 1814, five years before Wood took out his patent for the cast-iron share. It is said that he (Wood) knew of this plow before getting out his patent.

Richard Nicholas Harrison, obtained a patent on the 19th of December, 1818, for a cast-iron plow in three distinct parts, the same as Chenaworth's above.

Wood's patent, in 1814, was, as we understand, merely for *elongating* the cast-iron share of the old "Bull Plow," which had been in use in this country for many years prior to his touching it. In his specification he says, he "claims for casting the

* Wood and his heirs, have already enjoyed the benefit of this patent twenty-eight years; namely, from 1819 to 1847, during which time they collected thousands of dollars from the manufacturers, for the privilege of making plows with cast-iron shares.

plow share with a point longer, and more gradual in its rise, than that in common use," &c. In the specification of his patent of 1819, he had grown bolder and more exacting, and then had the assurance to claim, as an *original invention*, "the making, or constructing of a narrow, light, removable cutting-edge, or share of cast iron, by casting the same in mould, instead of the old-fashioned, large, heavy plow share, wrought and steeled, or otherwise fabricated."

What assurance! To claim as a new invention, what had been known and in common use in Great Britain, thirty-five years before the date of this patent, and in this country, upwards of twenty years!

Mr. Farrelly's excellent report completely refutes Jethro Wood's claim as the original inventor of the cast-iron share, as well as everything else of any importance, specified and claimed in his patent. We earnestly entreat our cotemporaries to obtain this report, and also to look over what we have said on this subject, and then make use of the facts for the benefit of their readers. They will find them in the various British Encyclopædias, in Allen Ransom's work on the Implements of Agriculture, recently published in London, and also in various other British works on agriculture and implements. We do not ask them to give us any credit in this matter, but to look into the above publications themselves, and set forth the facts in a strong light in their own way. We think the agricultural periodical will fail in its duty to its readers, that does not immediately publish the facts of this case.

CULTIVATION OF ONIONS.—No. 2.

THE most famous place in the United States for the culture of onions, is Weathersfield, on the Connecticut River. Here large tracts have been devoted to the production of this root for upwards of a century, and with many families it is still their sole occupation. The soil here, is peculiarly well adapted to its growth, being a rich, dry, gravelly or sandy loam. In the month of June last, we visited Weathersfield, for the express purpose of learning the best method of onion culture, which we here give in full, together with such suggestions as we think will be beneficial to the growers of this crop.

Preparation of the Land.—As long manure is full of seeds, and is somewhat in the way of good after culture, well rotted barn-yard manure is usually resorted to as a fertilizer. This is spread broadcast upon the land, and plowed in, from three to six inches deep, according to the nature of the soil. It is a settled maxim not to turn up deeper than the rich top soil penetrates. The onion being a shallow growing root, deep plowing is not requisite. In our own experience in raising onions, we found hog manure the best fertilizer we ever used. Guano was not then known among us; but we think it would be admirable for this purpose, as it contains nearly all the elements that onions want for their growth, and it is perfectly free from the seeds of weeds. It should be harrowed, and not plowed in, as early in the spring as possible, and immediately after plowing.

After harrowing, the ground is raked thoroughly with a fine iron-toothed rake till every clod is finely

pulverized. This, we think, could be done much more rapidly with a field roller, and a fine-set horse harrow.

At Weathersfield, they use from 8 to 10 lbs. of seed per acre, which is sown by hand, in drills, from 12 to 14 inches apart. Seed sowers would doubtless do the work cheaper, and more rapidly. They begin to sow as early in the spring as the ground can be prepared; say, from the last of March to the middle of April. As soon as the plants are up, the weeding is commenced, and in the course of the season they receive from four to six hoeings, and more, if necessary, to keep down the weeds. The hand cultivator would be an excellent substitute for this operation, as a single person could do more with it, in stirring the earth and cutting up the weeds, than four men could do with hoes.

Harvesting, &c.—In wet seasons, and sometimes from late sowings, onions are liable to grow thick-necked. In such cases, they should be gently bent down with the head of a wooden rake, which will check their rapid growth, and cause them sooner to come to maturity.

By the latter end of July, or early in August, the onions, in general, will have arrived at their full growth, which may be known by the shrinking of their stalks, or leaves. At this period of their growth, the harvesting is commenced and continued until October. They are then pulled up in dry weather, spread on a clean, firm plot of ground, and occasionally turned, in order to dry and harden by the sun. They are then cleared from rubbish and removed to a place of shelter, after which they are plaited into ropes, with straw, weighing 3½ lbs. each.

The yield, at Weathersfield, is from 6,000 to 10,000 ropes per acre, which is equivalent to from 400 to 600 bushels, according to the size of the bulbs. For the last four years, onions, in the New York markets, have been quite cheap, the average wholesale price having been but about \$2 per hundred ropes, delivered at the wharves.

The following calculations are based on the statement of the most experienced cultivators of the onion in Connecticut, and may be relied upon as correct:—

Cost of manuring one acre, . . .	\$20
Plowing and harrowing, . . .	4
10 lbs. of seed, . . .	5
Sowing, . . .	1
Raking and making drills, . . .	4
Hoeing and weeding, . . .	24
Harvesting, . . .	10
Carting from field to barn, for roping, . . .	5
Roping \$14 to \$18—say, . . .	16
Carting to vessel, . . .	5

\$94

If the crop were 6,000 ropes, at the average price of \$2 per hundred ropes, it would amount to \$120. If the yield were 10,000 ropes, it would amount to \$200; making the profit per acre, of the former \$26, and the latter \$106.

We were shown a large field in Weathersfield, where onions had been grown every year, without any other intermediate crop, for upwards of a century, with no apparent diminution in the yield. This

is certainly very extraordinary. But we hold to the doctrine that if the proper elements are returned to the land, after harvest, the same crop may be grown year after year for an indefinite time. As to land becoming sick, or tired of crops, or that the excretion from the roots of plants is poisonous to the land, we have very little faith.

A FACT USEFUL TO BE KNOWN IN REGARD TO THE POTATO.

Those who are in the habit of cutting their potatoes to plant, may not generally be aware that the sets, or eyes, near the end opposite to the root *a*, fig. 33, will come to maturity a fortnight earlier than those at the root end *d*. Yet, this is stated, on good authority, to be true, and these two classes of sets, when planted, will produce an earlier and a later crop. From the same authority, it is inferred that the sets from the middle, *b*, *c*, will mature at a period intermediate to the two.



FIG. 33. It is inferred that the sets from

the middle, *b*, *c*, will mature at a period intermediate to the two.

Therefore, it is recommended, that those who cut their potatoes, should separate the sets into three parcels, and plant them in distinct ground, in order that the crop may not be unequal in its time of maturity.

THE COW—HER DISEASES AND MANAGEMENT.—No. 1.

EVERY domestic animal, like the cow, is to be regarded as by no means living in a state of nature. Like her mistress, she partakes of civilized life, and, of course, is subject to similar infirmities with the human race. The period she is with young, with her, is a state of indisposition, and every manager of cattle should bear this in mind, and treat her, during this time, with every attention and care. Her actual diseases are not, indeed, numerous, but they are frequently very severe, always having a tendency to premature birth in her offspring, and sometimes causing death to herself. Therefore, every precaution should be employed to prevent accidents of this kind, and the utmost attention paid to her diet, exercise, and in affording her wholesome air.

The diet of the cow, during the early stages of pregnancy, may not vary from the ordinary course; but at the end of three months, a portion of her food should be of a mild, emollient, and relaxing nature, such as potatoes, turnips, cabbages, the leaves and stalks of green corn, or any other vegetables which have a similar effect. The great point to be aimed at, is to keep her bowels regularly open, which, if not effected by her food, may be done by occasionally giving her the following dose:—

Epsom salts, $\frac{1}{2}$ of a lb.; salt petre (nitre), $1\frac{1}{2}$ oz.; cream tartar, $\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; coriander seed, $\frac{1}{2}$ oz.; fenugreek, $\frac{1}{2}$ oz.

This medicine should be well mixed together and given to the cow in two quarts of whey, or water gruel, with a pint of ale, or beer, and half a pint of molasses. Should not this open the body sufficiently, in 24 hours, it may be repeated. In the course of the operation, she may be supplied every few hours with drafts of warm water, or thin

gruel. Should the cow be in a fat, or high condition, and show symptoms of fever, it will be proper to bleed her before the medicine is given; but if she be low in flesh, and impoverished in blood, bleeding should be dispensed with.

Air and exercise are absolutely necessary to the cow, as well as to other animals, and indeed, they are of such importance to her, that she cannot continue long, in a perfect state of health, without fully enjoying them. They wonderfully assist nature in its operations, by promoting the necessary secretions and evacuations, which are always useful to the preservation of health. Precaution should be observed, however, with cows highly fed, as the warmth of their food, with exercise, promotes perspiration, and shortly afterwards, if they are suffered to remain in the open air, exposed to raw, chilly winds, or if they are allowed to drink as much cold water as their inclinations sometimes crave, their whole system will often immediately be chilled, from which cause a violent cold is liable to ensue.

The most predominant symptoms of the latter complaint, are, a violent shivering or shaking of the extremities; the hair stands erect; and a sudden loss, or deficiency, of milk takes place, with want of appetite, followed by a purging, which soon stops. Shortly after, the animal generally becomes very costive; her ears, horns, and extremities are cold; her pulse feeble; and she will appear low and languid, having but little inclination to move or stir; but as the disease advances, if not checked, her pulse will beat quick and strong; her body will become hot; her mouth frothy and clammy, attended with thirst; and a heaving, or quick motion, will be perceived in her flanks. If her lungs are affected, a cough is often the consequence.

In the early stage of the cold, if the cow be in good condition, from one to two quarts of blood may be taken from her; but if she is low, and lean in flesh, from a pint to a quart will be sufficient. Should the disease be far advanced, attended by a strong quick pulse, double the quantity of blood may be taken. After bleeding the cow, give a dose of the following medicine (milk warm), mixed in two quarts of water gruel, to which has been added half a pint of molasses and a pint of warm beer, or ale:—

Epsom salts, $\frac{1}{2}$ of a lb.; saltpetre (nitre), $\frac{1}{2}$ oz.; cream tartar, $\frac{1}{2}$ oz.; salt of tartar, $\frac{1}{2}$ oz.; powdered ginger, $\frac{1}{2}$ oz.

This medicine acts as a gentle stimulus, and causes the bowels to relax, which is highly necessary, in order to prevent costiveness and fever; or if fever has already taken place, it will be the means of stopping its progress. The diet of the cow should consist of very thin, warm water gruel, and a mash made of malt and bran. In six or eight hours after taking the last-named dose, the following powders may be given, twice a day, mixed in a quart of water gruel and a pint of ale, until the disease is removed:—

Saltpetre, 3 drachms; salt of tartar, $\frac{1}{2}$ oz.; powdered valerian, $\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; powdered liquorice, $\frac{1}{2}$ oz.; powdered juniper berries, $\frac{1}{2}$ oz.; powdered tumeric, $\frac{1}{2}$ oz.; mustard seed, $\frac{1}{2}$ oz.; powdered camphor, $1\frac{1}{2}$ drachms.

AGRICULTURE OF THE CHINESE.—No. 5.

Modes of Manuring Land.—In the island of Chusan, and over all the rice country of Chekiang and Keangsoo, there are two plants cultivated in the winter months, almost exclusively for manure; the one is a species of coronilla; the other is trefoil, or clover. Large ridges, not unlike those on which gardeners grow celery, are thrown up on the wet rice fields in the autumn, and the seeds of the plants are sown in patches at five inches apart, on the surface of the ridges. In a few days germination commences, and long before the winter is past the tops of the ridges are covered with luxuriant herbage. This goes on growing until April, when it is necessary to prepare the ground for the rice. The ridges are then levelled, and the manure plants are scattered in a fresh state over the surface of the ground. The fields are flooded, and the plow and harrow are employed to turn up and pulverize the soil. The manure, thus scattered over the ground and half buried amongst mud and water, begins to decay immediately, and gives out a most disagreeable putrid smell. This mode of manuring is generally adopted in all the rice lands in this part of China, and the young paddy doubtless derives strong nourishment from the ammonia given out in the decomposition of this fresh manure.

Fire wood is so scarce in the country that a great portion of the straw, cotton stalks, and grass, which would go to manure the fields, is used for firing, and therefore, the plan of growing manure for the land is forced upon the farmers by necessity. The plan of using manure in a fresh state, instead of allowing it first to decay, has doubtless been found from long experience to be the best for the young paddy. The Chinese farmer is not a chemist; he knows little or nothing of vegetable physiology, but his forefathers have hit accidentally upon certain systems which are found in practice to succeed, and to these he himself adheres, and hands them down unchanged to his children.

When the first crop of rice is cut, the second, which has been planted in the alternate rows, is left to grow and ripen in the autumn; the ground is stirred up, and the stubble and part of the straw of the first crop is immediately worked up with the mud and water between the rows; this decays in the same manner as the trefoil in spring, and affords manure to the second crop. Prawns and fish of various kinds are frequently used for the same purpose and in the same way.

Burnt earth, mixed with decomposed vegetable matter, is another highly-esteemed manure, and is common in all the agricultural districts. During the summer months, all sorts of vegetable rubbish are collected in heaps by the road sides, and mixed with straw, grass, parings of turf, &c., which are set on fire and burnt slowly for several days, until all the rank vegetable matter is decomposed, and the whole reduced to a rich black earth. It is then turned over several times, when it presents the appearance of vegetable mould. This manure is not scattered over the land, but reserved for covering the seeds, and is applied in the following manner:—When the seed time arrives, one man makes the holes, another follows and drops in the seeds, and a third puts a handful of this black earth on the top of them.

Being principally vegetable matter, it keeps the seeds loose and moist during the period of germination, and afterwards affords them nourishment. This manure is useful, mechanically as well as chemically, in a stiff soil, like that of the low lands of China, where the seeds are apt to be injured in the process of germination. The young crop thus planted acquires a vigor in its first growth, which enables it to assimilate the matter that forms the strong stiff soil, and to strike its roots firmly into it.

What is commonly known by the name of oil cake, with us, is broken up and used in the same manner as the vegetable earth, and is also scattered broadcast over the land. The oil cake is the remains or refuse of the seeds of several different plants, such as the tallow tree, cabbage (*Brassica chinensis*), and various kinds of beans. There is a great demand for this manure in all parts of the country, and it forms a very considerable branch of trade, both by land and sea. Bones, shells, old lime, soot, ashes, and all kinds of rubbish, are also eagerly bought up by the farmer for the purpose of manure.

In the Fatee gardens, near Canton, the proprietors have a curious kind of rich mud, which they cut up into small square bits, and sell at a very high price for the growing of plants in pots. This is obtained chiefly from the ponds and lakes in the vicinity where the favorite water lily, or lotus, grows.

Application of Night Soil.—For crops in a vigorous growing state, no kind of manure is so eagerly sought after as night soil, and every traveller in China has remarked the large cisterns, or earthen tubs, which are placed in the most conspicuous and convenient situations for the reception of this kind of manure. What would be considered an intolerable nuisance in every civilized country on the globe, is here looked upon by all classes, rich and poor, with the utmost complacency; and I am convinced that nothing would astonish a Chinaman more, than hearing any one complain of the stench which is continually rising from these manure tanks. Almost every Chinese town is placed on the banks of a river or canal, and the water is generally led, not only round the walls, thus forming a kind of moat, but also through many parts of the city. Long clumsy boats are placed in different departments of the town, into which the night soil and urine are emptied and conveyed from thence into the country. The fields in the neighborhood of cities are generally supplied with it by coolies, who go every morning to market loaded with the produce of their farms. Each brings home two buckets of this manure, slung at the ends of his bamboo pole. It is generally supposed that the Chinese carry the night soil and urine to these tanks, and leave it there to undergo fermentation, before they apply it to the land. This, however, is not the case. In the fertile agricultural districts in the north, I have observed that the greater part of this stimulant is used in a fresh state, being of course sufficiently diluted with water before it is applied to the crops. And there can be little doubt that in this, the Chinese are perfectly right, as the manure must be much more efficient in this state than when a great portion of its ammonia has passed off into the air. The Chinese, as far as I could learn, have no mode

of disinfecting their manure, but they seem to be perfectly aware, that if allowed free access to the air a great loss must result, owing to the gases which are given out and dissipated. Without waiting, then, for fermentation or putrefaction, this manure is at once applied to the growing crops. On the afternoons, or on cloudy days, the laborers are seen carrying water from the nearest pond or canal to the manure tank, for the purpose of diluting its contents. This being done, they fill their buckets, attaching one to each end of their bamboos in the usual way, and carry them off to their destination. When this is reached, each man takes a small wooden ladle having a long bamboo handle, and with this he scatters the liquor over the growing crop. A strong stimulant like this would probably in other circumstances have an injurious effect; but, by using it only when the crops are young and luxuriant, they assimilate its gases, and a most marked effect is produced upon their growth and productiveness. This kind of liquid manure is generally applied to wheat, barley, and all the cabbage tribe, and other garden vegetables; but not to rice, which is always flooded during its growth.

This manure is sometimes used after putrefaction and fermentation have taken place, and even in this state is very efficient. In the gardens near Canton it is often dried and mixed with the soil taken from the bottom of the lotus ponds, and used for growing plants in pots, or for enriching any particular tree which may be a favorite in the garden.

Although the land is sometimes allowed to lie idle for some months, yet there is no regular system of fallowing, nor is the rotation of crops much known or practised. Indeed, as regards the low lands, the soil being a kind of stiff, strong clay, capable of yielding many crops of rice in succession, without being in any way burthened or impoverished, no such mode of cultivation is necessary.

IMPROVED AGRICULTURAL IMPLEMENTS.

HAVING occasion to visit the capacious establishment of Messrs. A. B. Allen & Co., 191 Water street, we could not but be struck with the variety and excellence of the implements for every possible purpose on a farm—from the cotton gin down to the apple parer—from the gigantic horse rake to the hoe no bigger than a dollar. Think of a hundred varieties of plows! Shade of Triptolemus! all that is lacking is the *original plow* to place side by side with these shapely, painted, and varnished clod compellers, in which real grace and beauty are made tributary to usefulness. Then there are the offspring of the plow—children, grand children, and great grand children; the cunning “cultivator,” and slicers and scrapers of every degree, all potent to destroy the upstart family of weeds, though proverbially reluctant—like other *parvenus*—to “stay put.” There are pitchforks, so tempered that a loaded wagon may roll over their tines without injury, and twanging under a slight blow like the *pitch-pipe* with which the country chorister sets “Wells,” or “Hebron.” There is the sausage cutter, with which the good wife, turning a crank while she rocks the cradle, can mince more pork in an hour

than could be done in a day by the old method; and the hand mill, which grinds hommony for breakfast while the fire is making. But a descriptive catalogue of all the ingenious and useful and really beautiful things that attracted our attention in the course of a hurried stroll through the various floors of this establishment, is quite out of question. We mention it for the sake of the numerous visitors from the country who are in town at this season, and who will of course wish to ascertain what science has been doing for the farmer since their last visit to this mart of all inventions. If our city readers should fancy that our theme lacks dignity, we have only to recall to their recollection Bryant's beautiful

AGRICULTURAL ODE.

Far back in the ages
The plow with wreaths was crown'd;
The hand of kings and sages
Entwin'd the chaplet round;
Till men of spoil
Disdain'd the toil
By which the world was nourish'd,
And blood and pillage were the soil
In which their laurels flourish'd.
Now the world her fault repairs,
The guilt that stains her story;
And weeps her crimes amid the cares
That formed her earliest glory

The proud throne shall crumble,
The diadem shall wane,
The tribes of earth shall humble
The pride of those who reign;
And war shall lay
His pomp away;
The fame that heroes cherish,
The glory earned in deadly fray,
Shall fade, decay, and perish.
Honor waits o'er all the earth,
Through endless generations,
The art that calls the harvest forth,
And feeds the expectant nations.

The approach of spring, with all its rich promise—the Mexican war, with “the guilt that stains its story,” and the laurels that make us almost forget the guilt—and the dreadful accounts of famine in foreign lands—give a peculiar significance and pertinency to this fine poem at the present moment. May it be the glorious privilege of our farmers to “feed the expectant nations!”—*Christian Enquirer*.

The above was written nearly a year since, and we presume is from the pen of Mrs. C. M. Kirkland, the accomplished authoress of “A New Home,” under the assumed name of “Mrs. Clavers,” a work without exception, the drollest, the raciest, and most original that ever flowed from the pen of an American lady. It also abounds with a high moral.

A FEATHERED CHIMNEY SWEEP.—An old-fashioned mode of sweeping chimneys was to tie together the legs of a goose, pull her up and down the flue by a string, and cause her to dislodge the soot by the flapping of her wings. This may seem cruel to the humane; but, which is the most barbarous, the sending of a goose down a chimney or a child up it?

GUANO FOR GRASS LANDS.—Grass lands may be greatly improved by sowing broadcast, about 300 pounds of Peruvian guano per acre, in wet weather about the first of May.

HOW SHALL THE SOIL BE IMPROVED?

In considering the important question, how shall the deterioration of the soil be most readily prevented and its fertility increased, I have been not a little perplexed with the different views entertained, and the different directions given by the savans [?] in agricultural science.

For instance, a few years ago, great value was attributed to *nitrogen*, as it exists in manure. Liebig, in his "Organic Chemistry," asserts that there are "numerous facts, showing, that the formation in plants of substances containing nitrogen, such as gluten, takes place in proportion to the quantity of this element which is conveyed to their roots in the state of ammonia, derived from the putrefaction of animal matter." And again, speaking of the great importance of the nitrogenous principle in manure, the same author says—"Animal manure acts only by the formation of ammonia."

To prove this, he cites an instance where a soil manured with cow dung, which contains but a small quantity of nitrogen, produced wheat of which one hundred parts afforded only 11.95 parts of gluten, and 64.34 parts of starch; whilst the same quantity of wheat grown on a soil manured with human urine, which contains a large proportion of nitrogen, yielded 35.1 per cent. of gluten.

Liebig, however, held that ammonia was not only evolved by animal bodies, but that it also "existed before the creation of human beings, as a part, a primary constituent, of the globe itself." He detected the substance in rain water and snow water, and thence deduced that it was brought to the earth by the descent of vapor in those forms. He believed that charcoal, decaying wood, *humus*, or vegetable mould, possessed the property of attracting or absorbing the ammonia of the atmosphere, and that by the application of these matters to the soil, they became a means of supplying plants with their necessary nitrogen. Charcoal, he stated, was capable of absorbing "ninety times its volume of ammoniacal gas, and decayed oak wood seventy-two times its volume."

These views became very extensively disseminated and adopted. Their announcement in this country, together with other theories of the great German chemist, created no little excitement, and some were very enthusiastic in their advocacy of the new doctrine. To secure ammonia and render it subservient to the uses of plants, seemed to be the great idea and object. Various were the "traps" devised for taking and holding this volatile substance. The papers teemed with directions for making "steeps" of ammonia and nitre for seeds, &c. One individual, somewhat distinguished, of late years for his zeal in the cause of agricultural improvement, and who, to use his own language, had, as "a practical agriculturist, devoted the best energies of his mind for years to the study of agricultural chemistry, vegetable and animal physiology," strongly recommended common charcoal as "the cheapest and therefore the best material to apply to cultivated fields" for the purpose of fixing ammonia. He stated that "the liberal application of this well-known substance (charcoal) to the wheat fields of France, had mainly, in connexion with lime, added within the last ten years (from 1833 to 1843), 100,000,000 bushels to the annual

crop of wheat grown in that kingdom." He proceeded to say, in the same connexion, that "he considered the subject "of vast practical importance;" and adds, "by studying the science of agriculture, you may grow fifty bushels of good wheat on any acre of your land, * * * bating, of course, extreme casualties." It is evident that a knowledge of the use of charcoal, or of its application for the purpose above described, was considered an important part of the "science of agriculture," from which such "vast" benefits were expected.

But within the lapse of only a few years, men, or their theories, have greatly changed. Liebig now holds that the ammonia of manures is of no "moment"—that plants derive an abundant supply of that element, as he supposes they do of carbon also, from the atmosphere! He holds that the *organic* part of manures, including the ammonia, is not necessary in supplying food to plants—that vegetable matters only operate *mechanically* on the soil. In accordance with the basis of this theory, it has been argued that we might as well burn manures and apply the *ashes only* to crops!

In the London "Farmers' Magazine," for December last, there is a translation of part of a letter which was addressed by Liebig to the editor of the "Revue Scientifique et Industrielle," in which he (Liebig) states that he had formerly regarded "azote as not only useful but also necessary," but that the results of experiments and observation have induced him to alter his opinion. In reference to his present views he says—"It has been demonstrated that ammonia is a constituent part of the atmosphere, and that as such, it is directly accessible and absorbable by all plants. If, then, the other constituents necessary to the growth of plants be satisfied—if the soil be suitable, if it contain a sufficient quantity of alkalies, phosphates, and sulphates, nothing will be wanting; *the plants will derive their ammonia from the atmosphere, as they do carbonic acid.* We know that they are endowed with the power of assimilating these two elements; and I really cannot see why we should search for them in the manures we use."

This theory seems to have obtained considerable credence in this country, and singular as it may seem, some of its most strenuous advocates are among those who but a short time since attributed such wonderful virtues to ammonia. But with them, charcoal and ammonia have had their day, and are no longer reckoned among the things needful to sustain the fertility of the soil. (a) Even the individual from whose remarks in recommendation of charcoal an extract is given above, has lately declared, in an article on the "Theory of Agriculture," that if the farmer will only "restore all the *earthy* part of each harvest to the field whence it was taken, he may grow any crop, year after year, * * * without injury to the soil."!!

This announcement would naturally be received with some surprise by farmers who had been accustomed to the ordinary course of manuring; but when it is known to proceed from one who only a short time since was so earnest in the recommendation of charcoal and ammonia, it appears startling!

I have nothing to say in regard to the opposite character and inconsistency of the theories above-mentioned; but in regard to sustaining or restoring

fertility by the application of inorganic manures (ashes) only, I wish to inquire whether the plan has been practically demonstrated? Since the theory was first broached, several seasons have passed, during which, it might have been brought to the test of experiment. But, do we hear of soils, *totally destitute of organic matter*, having been brought to fertility by the application of the *ashes* of manure, or inorganic substances only? "Liebig's manure," as it is called, for the sale of which companies were formed in Europe, appears to have been constituted on the principle of this theory. How has it operated? I have not learned the results of its use in many cases; but in the "Farmers' Magazine," for April, 1847, there is an account of some experiments with this manure, by Dr. Weissenborn, which indicated nothing in its favor. In the number of the same work, for December last, there is an essay by Thos. L. Colbeck, on "Farm-yard Manure," in which I notice the following remark:—"I am rather sorry to say, that Liebig's manure has not as yet answered all the expectations which were formed upon the announcement and sanctioned by a name we all respect so much." (b)

But it is thought that our western prairies furnish an example in proof of the soundness of the theory that none but inorganic manures are needful. Previous to the occupancy of the section referred to, by the white settlers, the prairies were annually burned over by the Indians, and yet the annual growth of vegetation was not, in most cases, diminished. This is the fact referred to as evidence that organic manures are unnecessary to fertility, and that it is only requisite to return the "ashes" of plants to the soil. Is this, however, a case in point? The soil of the prairies is known to contain, in many instances, organic matter to a great depth. Those portions which are the most permanently productive are remarkable for the large proportion of vegetable matter properly mixed with mineral elements, and to this mixture is generally (and no doubt correctly) attributed their great fertility. No inference, therefore, in favor of the position alluded to, can be drawn from this case. To make out a fair argument, a soil should be taken, which contains no organic matter, and it should be rendered fertile and productive by inorganic manures alone.

Before the recollection of all "old things" shall have "passed away," I wish to call attention to one point. Liebig, in his "Organic Chemistry," states that carbonic acid, water, and ammonia, contain the elements necessary for the support of animals and vegetables. "And in regard to the usefulness and importance of *humus*, or vegetable matter, in a state of decay, he says—"It is not only a slow and constant source of carbonic acid, but is also a means by which the necessary nitrogen is conveyed to plants." Now, to say nothing in regard to the first of these propositions, I wish to inquire what evidence is there, if any can be brought, to show that the latter proposition is unsound? It is not enough, merely, that Liebig himself repudiates it—the facts are wanted. P.

Albany, Feb. 9th, 1848.

(a) It is to be understood that our correspondent by no means underrates the value of charcoal and

ammonia as fertilizers of the soil; for it is well known that these substances, either used by themselves, or in combination with other materials, are requisite in growing most, if not all, of our cultivated plants.

(b) By referring to Mr. Main's "Report on the Immediate Effects of Special Manures on Crops of 1847," as published in January last, in the Journal of Agriculture and the Transactions of the Highland and Agricultural Society of Scotland, it will be seen that Liebig's "Patent Manure" proved itself useful as a top-dressing for wheat and oats; but its real value, with one or two exceptions, resulted in a loss, from the expense attending its purchase and application.

INDUCEMENTS FOR IMMIGRANTS ON JAMES RIVER.

NOTWITHSTANDING the number of immigrants from the north, who have located themselves in various parts of Virginia, and the many who have recently visited the tide-water region of James River, few or none of them have, as yet, become purchasers or settlers; yet a more beautiful and a more healthful country I have never seen. Nature has here been prodigal of her favors, in affording a good natural soil, an abundance of marl, and excellent water. That noble river offers ample facilities to markets, for the sale of produce of every description, and to the immigrant, it presents many inducements. Lands can here be bought *cheap*, and of the best quality. It is true, much of the land has been worn out, or exhausted, by improvident and injudicious cropping—everything taken off, and nothing returned; but there are many noble exceptions to this unfavorable state of things. Take, for instance, the Brandon, Coggins' Point, Shirley, Westover, Weyanoke, and other estates. These farms, I believe, have been, at a comparatively recent date, as unproductive as much of the impoverished lands in their several neighborhoods; and I hazard nothing in stating, that almost every acre of land on the margin of the river could easily and cheaply be made to yield an equal or a larger return of crops than these farms are now doing.

On the estate, which I now occupy, seven or eight years ago, six bushels of wheat, and from ten to twelve bushels of corn, would have been considered a high average crop per acre; but last year 540 acres yielded an average crop of 23½ bushels per acre, of wheat, and 520 acres of corn produced an average of not less than 38 bushels per acre. These returns present a handsome and encouraging increase, which has been brought about with comparatively little outlay, under a five-course rotation of crops; that is, corn, wheat, clover, wheat and clover, with the use of lime, gypsum, and the careful accumulation and application of manures made on the estate; and under an improved system of farming, there is no doubt but these returns might be doubled.

Your correspondent, "A New-Yorker," I hope, will be able to extend his observations, and present your readers with his views of the capacities of this delightful region, and the inducements therein offered to immigrants. As above indicated, I consider this a healthy region of country, as a resi-

dence in it, of nearly fourteen years, enables me to say so confidently. I moved here with my family, almost directly from Scotland, and together with my children, have enjoyed an almost uninterrupted continuance of good health, up to this time.

I have heard several gentlemen from the northern states, who have visited this part of Virginia, express fears, that the *working farmer and mechanic*, together with their wives and daughters, would be considered as holding a lower position in society than they had been accustomed in their own states, and be so treated by the native Virginians; but from my personal observation and experience, these fears do the *ladies and gentlemen* of the Old Dominion injustice; for the industrious, intelligent, and respectable working farmer or mechanic, is sure to meet with a cordial and hearty welcome from every Virginian whose favorable opinion is worth having.

A. NICOL.

Sandy Point, Charles City, Va., March 7th, 1848.

SOUTHERN AGRICULTURE.

"*Letters from the South*"—No. 12.—I admit that correcting our friend, R. L. A., is, as a general rule, showing up one's self; but as I think I can do it once, I beg to have that pleasure. Were he such a small writer as we country folks, I should not dare, but I lose nothing, and may gain.

On page 337 Mr. A. says—"With the best plows, a planting machine, cultivators, and harrows, one person can easily plant, cultivate, and harvest 15 or 20 acres of corn with four months' labor, that will produce an average of 40 bushels per acre." Nothing but frost will prevent a good crop.

I assure you, sir, I have seen a field that was believed to contain 860 acres, cultivated in corn by nine hands, one of them with one arm only. I saw another place cultivated at the same rate; and it is highly probable neither of the owners ever saw one of the above implements. I have cultivated on this farm 10 acres of corn, and as many of cotton, which induces me to believe that I can cultivate 30 or 40 acres in corn, just double what Mr. A. speaks of. Within three miles of my seat, I can find 200 to 300 acres of cleared land in one field, that will average 40 bushels, thus giving me 1,200 to 1,600 bushels per hand, instead of 600 to 800. I can produce as good proof as can be required, that my brother, A. K. Montgomery, did make this year an average of 60 bushels from his entire crop; our father, Mr. M., did make an average of near that; and that they planted over 150 acres in corn. I have seen in Louisiana 1,000 acres in one body, that I sincerely believe would average over 60 bushels. I have seen a crop in Concordia of full 100 acres, that averaged 80 bushels. And yet, with all these lights accessible to any Philadelphia doctor, we are *forced to believe*, by said doctor, that the south is not adapted to corn. We do not need the best plows &c., &c., to make these large crops—the soil is the thing. The poor lands in your latitude, will no more give 50 to 150 bushels than will the pine lands of Rankin county, Miss., or the sand hills of the Richland district, in Carolina. And acre for acre of similar lands, similar culture, similar manures, we can make as much as you can. This is irrelevant to the present subject, but I will let a shaft fly at that Philadelphia

doctor whenever I can. Let him stick to his pills, and not write of us whom he never saw. I allude to the compiler of the *Farmer's Encyclopedia*, published at Philadelphia in 1844. See article "Climate," page 336.

Now as to frost injuring corn. We can plant corn here in January, February, March, April, May, June, and July; and if it once vegetates, and has two blades, the frost will not injure the yield materially. I have planted in February, and had the same corn cut down two or three times by frost; it made as good a crop as that planted later. The only fear is, we cannot calculate on a fine spell of weather in January and February, to get corn up, before it rots in the earth. Corn cut down by frost, does not grow so high, does not make the usual quantity of fodder; but it does generally make more corn, and this is believed by nine planters out of ten, who have followed darkies for 15 years.

The above article was written thus far in November last, and overlooked until this night, January 24th. I will now add, that there is no doubt but that good tools and labor-saving implements, will always enable the planter to do more and better than he can as now practiced. And I insist that they can work cheaper too. Allow me to state one little matter, that bears on this. In 1839, I had some hoes made by a country smith out of the worn-out blade of a Philadelphia mill saw; they were rough, it is true, but I cultivated four crops with them. I now buy the best hoes I can find, and have to buy at least half a set every year, at about the same cost. Knowing this, I prevailed on R. L. Allen to have steel hoes made, of size and weight to please our workies. He says they are good stuff. I saw them, and believe they are cheaper at \$1.50 each, than iron hoes are at nothing. Another implement of value, a drawing knife, I also urged R. L. Allen to have made, that could be recommended to planters. He has done so. And my reason for it was, I usually keep four for home use. For one of them I was offered \$2, and dared to take even \$4, by a laborer—a white man. I asked him why he offered so much? He said he had never seen one that was equal to it, and that one was held by a laborer who refused \$5 for it. I have not seen half a dozen real prime drawing knives in my lifetime, and though I have bought and thrown away a dozen, I have never owned but two good ones. I speak of these, to show the advantage of good tools. Many of your readers will laugh at the idea of a planter expatiating on these little things, but they should remember that the world is made up of little things.

M. W. PHILIPS.

Edwards, Miss., January 24th, 1848.

MR. ALLEN'S REPLY TO DR. PHILIPS.

I was gratified to notice the candid criticism of Dr. Philips, on the article of corn as human food. The examples he gives of the great productiveness of this grain are important data for determining its value in this section of the country as a crop. His examples, however, do not surprise me, but rather confirm the impression entertained on the subject at the time I wrote; and in corroboration of those given, I will add that of Col. Wade Hampton, on his Lake Washington plantations, 200 miles above

Vicksburg. He assured me that he raised on them 25,000 bushels of corn the last season (besides his cotton, which is his principal crop), and much of it at the rate of 80 bushels per acre. This, however, was done with best cast-iron Eagle plows, the "A 3," for breaking up, and the "A 2," for cultivating.

In assuming the position I did, that one man's labor for four months would yield 800 bushels of harvested corn, I meant to be entirely within bounds, and not subject myself to the charge of overstating the productive industry of the southwest. The excess of production beyond what is stated, so far from impeaching, serves but to confirm the statement. The examples quoted by Dr. P., however, as well as that of Col. H., may be considered as *extremes* rather than the *mean* of production, even in the Mississippi Valley. They are furnished by the cultivation of comparatively new and uniformly fertile land, with a judicious application of labor and favorable seasons. The best lands, unless subject to the annual overflow of muddy streams, would not long sustain such crops; while a vast proportion of this valley, cannot in its ordinary state, be made to produce so much. Such lands must be manured, and the most fertile also, when partially worn. To provide and apply this manure, whether from the yards or muck heaps, or by green crops, will demand no inconsiderable amount of labor; and with the occasional replanting from casualties to seed, short crops, owing to a variety of causes, &c., &c., will, in my judgment, leave but a small average excess over 800 bushels of sound shelled corn for four months' labor.

As to the injury from frost upon young corn, my experience, in a northern latitude, has been, that although it generally affected the blades above the surface only, yet it occasionally killed the germ; and even when the vital part was not affected, repeated attacks frequently checked the growth, and seriously diminished the quantity of grain, as well as the stalk and leaf.

R. L. ALLEN.

New Orleans, March 8th, 1848.

THE PEANUT, OR PINDAR, PROPOSED AS A FERTILIZER FOR WORN-OUT SOILS.

In a Spanish work, entitled "Memoria sobre el Mani de los Americanos," by Don Antonio Encheandia, published at Saragossa, in 1800, it is stated that, if a mixture of one part of the flour of peanuts, with six parts of water, be left exposed to the air, on the third day after, an acid, and on the sixth day a putrid, fermentation takes place, attended with the formation of a considerable quantity of ammoniacal salts. Hence it may be inferred, that, if the entire plant be plowed under, a short time before the leaves begin to turn yellow, it will serve as an excellent manure for enriching inferior or worn-out soils.

It would be interesting to know how far north this plant will grow, or mature its seeds in the open air. Those who wish to make the experiment will find minute directions for its cultivation, at p. 346, of our sixth volume, where it is stated that an acre of poor sandy land will yield from 50 to 80 bushels of the nuts, and over a ton of hay, from the tops. The peas, or nuts, can usually be bought in market

for \$1.50 to \$2.00 per bushel. If sown as late as May, or even June, it is probable that they would grow sufficiently, in the course of the season, to afford a green crop for plowing in, or to be mown and cured for hay. In the south of Spain, the time of planting it, is from the middle of May till the end of June; but there the climate is mild and generally without frosts, the coldest months of the year.

REVIEW OF THE JANUARY NUMBER OF THE AGRICULTURIST.

WHEN I closed my review of the volume for 1847, I expected to be able to keep up with your monthly issues; but while in Nova Scotia, during that severe cold weather, about Christmas, I took one of the "worst colds in my life," which has disabled me the balance of the winter. If it were not requisite for me still to preserve my *incog.*, I should like to give you a sketch of "Sam Slick," as well as of the editor of the Maine Farmer, and some others whom I met down east. I forbear; for, in truth, the doctor and all the rest "on 'em is so cute," that they nearly rent my veil while I was in company with them. I therefore, shall proceed at once to notice such articles in the January No. as I think will be most useful.

Agricultural Society Addresses.—I commend this article to all the readers of your journal. It is a lamentable truth, that of all the agricultural addresses that I ever listened to, I never heard one well fitted for the occasion. I am glad to hear that an improvement is taking place. There is room for it: Ditto of reports of agricultural show committees.

The Number of Swine in the United States is here estimated (and too low at that), at twenty millions. And at least, nineteen millions of these are

Swine Running at Large.—What a horrible, hoggish picture of a heathenish people. As I happen to live in that village which you mention (see page 13), I can vouch for the truth of that picture. You say "if any loafer presumes to let his hogs run in the street," &c. I object to this expression as unjust toward that very respectable class of society. I mean comparatively respectable; for a *loafer*, as I understand the term, is a lazy, indolent fellow, whose sins are rather of a negative character; while the swine breeder, who sends his hungry horde into the streets to prey upon his neighbor, is worse than a pilferer, who would come and steal the corn with which to feed his swine in a pen at home; for he would probably shut the gate after him. I object to your plan of impounding, as a curative of the evil. I saw a much better one copied from some western farming paper last summer [it was the *Prairie Farmer*. Ed.], as in force in some part of Illinois. It is also well calculated to improve the breed, and much more effectual than your remedy. The cost of the cure is half an ounce of lead, a thimbleful of powder, and one percussion cap!

Canadian Cattle Show.—This number contains a descriptive article from L. F. Allen, of a visit to this show at Hamilton last fall, which is, as his articles generally are, highly interesting. As our show is to be at Buffalo next fall, I hope his visit will be returned by at least a thousand of our Canadian brothers.

It is a most gratifying thing to me that the steady devotion of L. F. A., to the best interest of the farmer, has been honored with the presidency of the New York State Agricultural Society. I hope he will be continued in office until he works some needed reforms.

Ice Houses.—Your remarks upon the construction of this useful appendage to a farm, in the southern portion of our country, are very good. Though instead of a frame, with posts a foot thick, two light frames, one within the other, would be better. Perhaps the "balloon frames" spoken of by Mr. Robinson, would answer a good purpose. I wish, Mr. Editor, that you would publish a cut and description of the old "Virginia ice house." [Will try to do so one of these days].

Hints for the South.—Mr. Abbey disputes Mr. Peacocke's facts, about raising meat; but, unless, I am misinformed upon this subject, Mr. P. is far nearer the mark than Mr. A. As to Mississippi being the "best region in the west for raising beef," Mr. A. must surely be mistaken. Beef cannot well be packed in such a warm climate; and besides, northern beef is always esteemed the best. If Mr. A. has a breed of negroes that will not kill off the pigs, however well fed, they are certainly different from any that I have ever met with in my travels. As to Mississippi being a good fruit country, I fully believe in that; but as to its yet being put to the test, to any important extent, no man who has spent so much of his life there as I have, can credit it, unless, indeed, it has wonderfully altered since I was in the state, five years ago.

Yankee Farming—No. 1.—Well, now, I like originality, and here it is in all its parts—name, place, and style. But unless I am most deucedly mistaken in my "guess," at the author, he will belie his name, or the character of his profession—the great body of them not being noted as very near relatives to the Sergeant family. But never fear, Sergeant, for your case, I will not divulge while you are engaged in the same cause that I am; but if you will guess shrewdly once, and then ride over to my house some day, you shall meet with a most hearty welcome from a *Corporal* of your old company. In the mean time, I expect to be often delighted by your too-true description of New-England farming. I don't think you can be accused of being personal; for I have already heard you charged with meaning more than twenty different individuals, for "Uncle Sim." The only difficulty in the way, is, that none of these uncles have a neighbor Goodell. But I have suggested to them, that the Major is entirely a fictitious character; but this they are unwilling to believe, "he seems so nat'ral like," and the oxen more so. "Wal! Wal! I guess there is something in feed arter all."

Monographs of Fruit.—Your correspondent need not call upon Hercules to perform this task; for however much the old giant might do with his club, Mr. B. is quite as powerful with his pen, which I am right glad to see is enlisted for the Agriculturist.

Taplin's Horse Power.—There is an error in this engraving, or in the machine itself. Nothing appears to support the wheel upon the side opposite the pinion; but it would rather appear to be suspended by the centre shaft. If that is the fact, it

will soon get to wabbling so as greatly to endanger it or other parts of the machinery. It should run upon four bearings [it does so, but these unluckily are not shown in the cut], and if the segments were put on top, or on the rim of the wheel, it might run within two inches of the ground. The whiffletree could be raised to any desired height by a standard, supported by a back stay.

Dressing Wounds.—Although this article was intended for animals, its advice is equally good for human wounds. Nine times out of ten, a wound will heal quicker, if done up in its own blood, than in any other way. As for a burn, whatever will entirely exclude the air the quickest, is the best. Cotton will do this. So will oiled silk, if stuck down at the edges by any kind of sticking salve. Put nothing on a burn to heal it. Nature will soon do that, when the air is excluded, and the pain will almost immediately cease.

Hints to Mothers.—If that "Farmer's Wife," at Onondaga Hill, doth practice as she preacheth, pray commend me to her as an instructress to my daughters; though thanks to the example of their good mother, I think them pretty useful girls already. If this farmer's wife will continue her contributions to the *Agriculturist*, she may assist in teaching farmers' daughters how to make housekeeping easy; and I will assure her that her articles shall be touched with a most gentle hand by your

REVIEWER.

INTRODUCTION OF THE COCHIN-CHINA FOWLS.

WE are informed, through the Massachusetts Ploughman, that Mr. J. C. Bennett, of Plymouth, Mass., has been pre-eminently successful in rearing this celebrated breed of fowls from a pair, which he imported in July, 1846. One of the cockrels, of last May's brood, weighed 8½ lbs. when ten months old, and a pullet of the same brood and age, weighed 6½ lbs. The latter commenced laying about the first of January last, and on the 19th of February, she hatched out a fine brood of her own. The mother of this pullet laid 84 eggs within the period of 136 days, between the 31st of March, and the 14th of August last.

Mr. Bennett states that these fowls are no more expensive to keep than the common breeds; while they are about twice as large, better layers, less destructive to gardens, more docile, very careful of their young, and their flesh fine and highly flavored. Therefore, he considers them, in all respects, better and more profitable to raise, than any other breed. For a description of this species of fowl see pp. 36, 153, of our sixth volume.

SCARECROWS.—Among the various contrivances employed to frighten crows from newly-planted corn, small pieces of looking glass, or little bits of shining tin, suspended about the field, by pieces of strong twine on short poles, four or five feet above the ground, will prove as effectual, perhaps, as any other means. A line of white twine strung around the field and supported by stakes, will also have a similar effect. The crow, in all old settlements, is too suspicious a bird to approach any such contrivances, for fear of being caught.

LETTERS FROM VIRGINIA.—No. 6.

Farm of Mr. Sherman.—Nine miles from Washington, on the road leading to Fairfax Court House, is the farm of Mr. Sherman, consisting of some two hundred acres, under good cultivation; and the history of this farm is so characteristic of the region round about, that it may serve to illustrate, and in some measure explain, the present state of things in Virginia. Some twenty years since, a clergyman of wealth, talents, and leisure, purchased the entire estate, including nearly a thousand acres, erected a fine substantial brick house, and surrounded it with out-buildings of brick, at an expense of upwards of five thousand dollars; laid out the grounds in the vicinity of the mansion with great beauty and taste, and opened a large boarding school, for the reception of pupils, from Washington and the adjoining cities. At his death, which occurred soon afterwards, a large portion of the estate was disposed of at private sale, by his executors and heirs, and the family mansion, with the surrounding grounds, leased for short terms to a succession of tenants. These tenants having no other interest than that of securing profitable crops, not only speedily exhausted the soil, but suffered the house and buildings to become dilapidated—cut down the ornamental trees and shrubbery, so tastefully arranged by the late possessor—converted the parks and drives into corn and wheat fields, and potato patches, and were actually proceeding to turn the mansion itself into a vast barn, occupying the commodious out-houses as dwellings, in order to avoid the necessity of repairs, when the premises were purchased at a very low price by the gentleman, who subsequently sold them to the present owner, for a sum considerably less than the first cost of the house.

On coming into possession, Mr. Sherman found the house nearly destitute of everything, save bare walls; but these being of the most substantial and permanent materials, and in good condition, he soon found means to render it habitable; and being himself a practical farmer, aided by his sons, and by the natural fertility of the soil, speedily succeeded in placing the farm in good condition, and in realizing amply remunerating crops. He surrounded it, the first year, with good post and rail fences, repaired the various out-buildings, pruned and trimmed the fruit trees, restored the shrubbery, as far as practicable, and commenced a systematic course of cropping and husbandry. During the past year, he has erected a large and commodious barn, and surrounded it with all requisite conveniences for cattle and stock—carrying to his barn yard, from an adjacent spring house, by means of leaden pipes, a plentiful and continual supply of water. The barn being situated on the acclivity of a hill, a large stone basement, some ten or twelve feet in height, and forty or fifty in breadth and length, was constructed at a very trifling expense, compared with its utility; and this basement has been subdivided into stables for horses and cows, having free communication with the upper floors by means of the racks on the one hand, and the yard on the other. The great convenience, utility, and economy of a well-constructed and properly-located barn, are so obvious, that many of Mr. Sherman's neighbors, by whom such

a farm appendage has hitherto been regarded as a senseless Yankee innovation, are taking measures for constructing one themselves. The difference in the mere market price of hay wintered in this manner, no less than its greatly-enhanced value for the use of stock, has demonstrated to the most incredulous, the superior advantage of a *good barn*, over the most scientific *hay stack*.

Mr. Sherman has now resided on this farm for three years, during which period its value has more than doubled; and he has several times, to my knowledge, refused twice the amount paid for it. These results have been attained simply by superior cultivation and good farm husbandry, as every one can perceive by comparing the soil with that of the adjacent farms in the neighborhood; and although Mr. Sherman stoutly insists that his land is intrinsically better than that of his neighbors, yet I am well convinced, that if he should to-day purchase and occupy the poorest farm within five miles of his present residence, he would, within a very short period, come to the conclusion, that *his land* was of a superior quality.

Farm of Mr. Hyde.—Nearly opposite Mr. Sherman's, on the west, is "Ingleside," the residence of Charles K. Hyde, Esq., formerly of New Jersey; a well cultivated and valuable farm of two or three hundred acres, with a fine dwelling, pleasantly located in a natural grove of stately forest trees. I cannot help admiring the good taste of these Virginians, in selecting the locations for their dwellings. There is something inexpressibly beautiful in the idea of a rural cottage, surrounded by the luxuriant vegetation of this mild climate, embosomed in shade and shrubbery, and rendered musical by the tuneful choristers of the wood. It is pleasant to withdraw for a few hours, from "the heat and burden of the day," to the cool verandah of such a dwelling and, with book, or friend, to recruit the exhausted physical energies, and leisurely contemplate the surpassing beauty of nature in her holiday attire. Mr. Hyde informs me, that, having purchased an estate near Williamsburg, in this state, he is desirous of disposing of "Ingleside;" and as I presume his terms will not be unreasonable, I commend the opportunity of making a valuable purchase, to such of your northern friends as may feel an inclination to test the beauties of a southern clime. Certainly I know of no more pleasant situation.

Lieut. Muse, of the U. S. Navy, attached to the astronomical observatory, at Washington, has also a fine seat in this neighborhood, with a small farm of fifty or seventy-five acres; and near him is Mr. Mackall of the Treasury, and Mr. Jones, of the Post-Office Department; each of them delightfully situated, and in possession of all the means and appliances of good husbandry. The lapse of a few years cannot fail, in my judgment, greatly to enhance the market value of the lands in this region, rapidly filling up as it is, by intelligent, systematic, and judicious farmers. A NEW-YORKER.

UTILITY OF BLUE GLASS FOR HOT HOUSES.—In vegetable growth, the blue rays are the most active, the red ones the least so. Hence the benefit of employing glass stained blue or green for the roofs of hot houses.

SWINE.—No. 3.

Introduction of Swine into America.—The first swine, unquestionably, which were introduced into America, must have been brought over to Hispaniola, by Columbus, in his second voyage. He left Spain, in 1493, on the 25th of September, as admiral and commander in chief, with 17 ships, fifteen hundred men, and European trees, plants, and seeds of various kinds. He also brought over quite a number of horses, one bull, and several cows; and certainly, at that time, would not have forgotten so common an animal as the hog.

The first person, so far as we can learn, who imported swine into what now forms a part of the United States, was Ferdinand de Soto. He brought them, together with horses, from the island of Cuba, and landed them in Florida, in the year 1538.

The Portuguese took swine and cattle to Newfoundland and Nova Scotia, in the year 1553. Thirty years after this, they had multiplied so abundantly, that Sir Richard Gilbert, when coasting that region, in undertaking to land, to obtain supplies of cattle and hogs for his ship's crew, was totally wrecked.

In 1591, the British ship, *Henry May*, was wrecked on Bermuda, at which time the surviving crew found that island swarming with wild black hogs, though not a single human being was then living there. It is supposed that these swine were the descendants from those belonging to some vessel, which had been cast away many years before, as several Spanish and Dutch wrecks were found on the shore.

Swine and other domestic animals were brought over to Acadia, or New France, by M. L'Escarbot, a French lawyer, in 1604, the first year this country was settled. In 1608, the French extended their settlement into Canada, and soon after introduced the various domestic animals.

In 1609, three ships, from England, landed at Jamestown, Virginia, with many immigrants and the following domestic animals; namely, 6 mares, 1 horse, 600 swine, 500 poultry, with a few goats and sheep. Other domestic animals had been brought there previously. In 1611, Sir Thomas Gates brought over to the same settlement 100 cows besides other cattle. They were kept near Rochdale. As early as 1617, the swine had multiplied so rapidly in this colony that the people were obliged to palisade Jamestown, to prevent being overrun with them.

The plantations on James River, in 1627, contained about 2,000 head of horned cattle, goats in great abundance, and wild hogs in the forest without number. The Indians then fed upon them freely instead of game. Every family that had not an abundance of tame hogs and poultry, at that time, was considered very poor.

As early as 1629, we find that the Plymouth Colony, of Massachusetts, had cattle, goats, swine, and poultry. We may, therefore, conclude that their importation probably followed the year after their first settlement, in 1620. In 1629, 115 more cattle were brought over to this colony, besides horses, 140 goats, and some conies.

We might thus go on, *ad infinitum*, in giving details of various importations of the domestic animals into America; but we think we have said

enough to show that they were coeval, or nearly so, in their introduction, with the humane species; so that the history of the settlement and progress of the population of this country, may be considered that of the domestic animals.

What these various breeds of swine were, we are unable to learn, save that those introduced into Virginia, from Bermuda, were pretty much the same as is now known as the Spanish black hog, a very fine, well-bred animal, of medium size. It is said they have continued from their first importation down to the present day, to exercise a marked influence in the shape and general characteristics of many of the best southern hogs.

The Chinese, Siamese, and cognate breeds, from various parts of Asia, Africa, and the European shores of the Mediterranean, have often been brought to this country by enterprising merchants, the captains of our trading ships, as well as by officers of the navy. These were distributed among our farmers, and were the cause of more or less improvement in the native stock.

The first swine of which we can find any reliable account, as having made much improvement in the stock of the United States, was a pair of pigs sent by the Duke of Bedford, to Gen. Washington, by a Mr. Parkinson, an English farmer, who came to this country in 179—. He leased a farm in the vicinity of Baltimore, Maryland, where he resided some time. Instead of delivering these pigs to Washington, he dishonestly sold them. They were generally called the "Woburn," or "Bedford breed," but in some districts in this country, they were known by the name of the "Parkinson hog." They originated at Woburn, the estate of the Duke of Bedford, and were produced by a cross of the Chinese boar on the large English hog. In their perfection, they were a splendid breed; being fine in their points, of deep, round carcass, short legs, and thin hair. They kept easily, and matured early. At 12 to 20 months old, they usually weighed from 300 to 600 lbs. They had light ossal, and their meat was of the first quality. Their color was white, broken more or less with dark blue or ash-colored spots. The steward of the Duke of Bedford, informed us, in 1841, that the true breed in England, had become extinct several years before; and we believe its purity is no longer known in the United States. They were at one time widely diffused in Maryland, and the border counties of Virginia, as well as in Pennsylvania. General Ridgely, of Maryland, bred the Woburns in high perfection. He sent a pair to Mr. Timothy Pickering, of Salem, Massachusetts, the descendants of which, and their crosses, were extensively bred over this and the adjoining states.

The veteran editor of the *Farmer's Library*, J. S. Skinner, Esq., informs us, that, in the year 1823, when residing in Baltimore, and then editing the *American Farmer*, an Englishman by the name of Wright, sent him a pair of black hogs, which were nearly as fine, but something larger, than the Woburns. Through his patriotic efforts, their stock became widely distributed in Maryland, and still farther south, where it was highly approved.

The "Byfield," sometimes known as the "Grass breed," derives its first name from the circumstance of a farmer in the town of Byfield, Massachusetts,

about thirty years ago, accidentally picking up a pretty pig one day in the market, and taking it home and breeding from it. The progeny proved to be fine and quiet little animals; but in consequence of their rarely attaining over 250 to 300 lbs. weight, full grown, and being rather shy breeders, they were soon given up as too small and unprofitable for the general purposes of the farmer. Their color was pure white.

Captain John Mackay, of Boston, Mass., produced a superior breed of swine, about the year 1825, by judiciously crossing various excellent animals, which he had the good taste and enterprize to select and bring home in his voyages from vari-



FIG. 34.

ous quarters of the globe. It is said that the pigs, from which he derived the greatest benefit in establishing his breed, came from China. This breed was given the name of "Mackay," in honor of its originator, by Sanford Howard, Esq., at present one of the editors of the Albany Cultivator. Mr.

for their history. Col. Samuel Jaques, of Ten-Hills Farm, near Boston, the Honorable Daniel Webster, the great northern statesman, of Marshfield, and Mr. Paoli Lathrop, of South Hadley Falls, still possess the Mackays in their original purity. Those we have seen of this breed, were large, thrifty, and fine; and of a pure white color. We have no doubt they were quite equal to the celebrated Woburns.

The Spanish black hogs, from the Mediterranean, brought over by Commodore Chauncey and other naval officers, have been sources of considerable improvement along the Atlantic coast. Then we have had the Norfolk Thin-rind, the Leicestershire, the Lincolnshire, the Hampshire, the Yorkshire, the English and Irish Grazier, the French, the Swiss, the German, the Neapolitan, the Russian, the Calcutta, and time would fail to tell how many more breeds, if we undertook to enumerate them all.

We now come to the breed which has been more widely spread, and exercised a greater influence in giving shape and character to the swine of the United States, than any other. We allude to the "Berkshire." The first was imported from England, in 1823, by the late Mr. John Brentnall. He was an English farmer, and settled in Canterbury, Orange county, N. Y. The next importation of Berkshires, was in the autumn of 1832, by Mr. Siday Hawes, who resided on the Three-Hills Farm (since owned by Mr. Bement), in Albany, this state. In 1833 and '35, he made other importations; and after his return to England, in 1838, he sent out others in 1839. Subsequent to this, Messrs. Bagg & Wait, of Montgomery, Orange county, N. Y., made large importations of Berkshires, both here and into

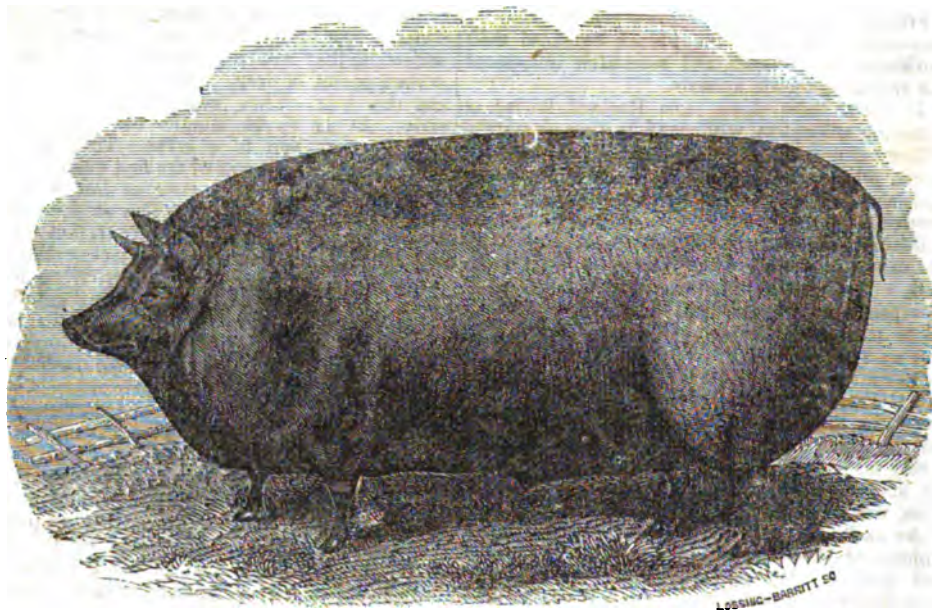


FIG. 35.

H., obtained some stock of Capt. M., as early as 1830, and was highly instrumental in diffusing those he bred from it, in different parts of the United States. It is to him that we are mainly indebted

to the south and west. In 1841, we imported upward of forty head of this superior breed.

The Berkshires are so well known, that we need not describe them. Notwithstanding the disap-

pointment and prejudices of some, we say emphatically, that taking them all in all, we still think those which are well bred, the best farmer's hog ever imported into, or reared in, this country. They are a particularly valuable breed for the west, as they have proved themselves better travellers than any others, when driven over the mountains to a distant market. This is an important consideration; and when Berkshires can no longer be found, they will be more highly thought of than ever, and the farmers will seek, when it is too late, to get into the breed again.

James G. King, Esq., of New York, while at Liverpool, England, in 1838, obtained two sows and a boar of the Neapolitan breed of swine, which cost him about \$150. He brought these home with him, and generously distributed their produce gratuitously among the farmers of the country, at the south as well as at the north. In 1841, he presented fifteen of these animals (among which were those originally imported), to the New York State Agricultural Society. Being almost entirely destitute of hair, this breed was not found sufficiently hardy to withstand our northern winters; but those he sent to Georgia, thrived well, and found great favor in that warm climate.

John P. Cushing, Esq., of Watertown, Mass., has often imported swine from China and other quarters of the globe, at great expense, and has generously distributed their progeny gratuitously among the farmers of his state.

In 1841, Mr. William Stickney, of Boston, imported a pair of Suffolk pigs, which he has followed up by other importations, nearly every year since. His hogs are of medium size, of a white color, very fine in all their points, with deep full chests, round bodies, thick hams, and short legs. They are docile, thrifty, mature early, and are easily kept. Their pork is considered very delicate and fine. They will weigh from 200 to 450 lbs. at 12 to 18 months old. This breed of swine, some few of which occasionally come up as high as 500 lbs., is beginning to be pretty well known; and as they are of a favorite color, we think they are destined to be widely disseminated.

C. N. Bement, Esq., editor of the American Journal of Agriculture and Science, at Albany, N. Y., is now establishing a breed much like the Suffolk, of which he thinks highly. For a particular account and portrait of one of this breed, see volume sixth, p. 369, of the *Agriculturist*. Mr. Bement has given his pigs the name of "Medley," indicative of the admirable mixture of blood he seems to have stirred up to give shape and character to them.

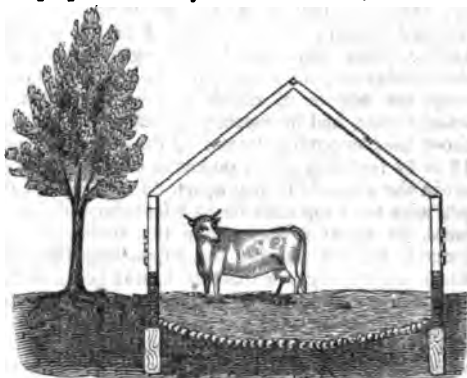
Thus we have given our readers, in a brief way, all we at present know of any great importance concerning the history of the importation and breeding of improved swine in the United States. To any one who can furnish us with other information on this interesting subject, we shall feel highly indebted.

We now present our readers with the portraits of two pigs, which we think very perfect of their kind. Fig. 34, is exactly like the improved Chinese, which we formerly bred, and would not be a bad portrait for a small, well-fatted Suffolk, or Berkshire.

Fig. 35, is a good representation of a choice hog for a farmer, weighing from 400 to 500 lbs. It is an excellent model to go by, and every farmer ought to have it before him as a guide in breeding. The best Suffolks, well fattened, nearly resemble this; so also do the Berkshires, except that they are inclined to be somewhat steeper in the rump.

A STERCORARY, OR COVERED FARM YARD.

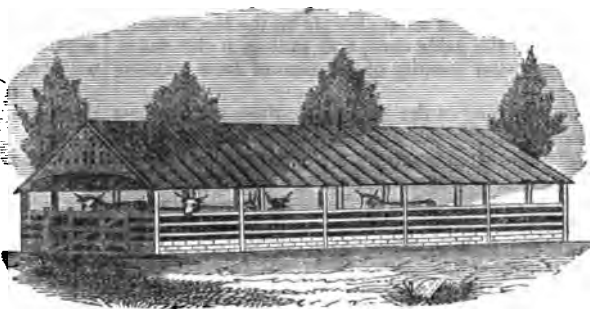
A FARM yard, in all cases, should have a firm, water-proof bottom, roofed over sufficiently to ward off the sun and rain, and amply ventilated at the sides. Those who are unable to incur the expense of a proper stercorary can form a vat, three feet



CROSS SECTION.—FIG. 36.

deep with a dry bottom, which may be covered by a roof of rough poles and straw, supported by posts set in the ground. The loss of manure by rains and evaporation, for the want of a roof, or cover, is almost incalculable. For it has been found by experience, that, animals thrive quite as well under cover, resting on their own excrement, muck, straw, &c., as when confined in a yard or pen in the open air.

With proper management, in the course of a year, if kept under cover, a consolidated mass, three or four feet in thickness, may be accumulated, which will cut out like a good dung heap, and be fit to apply to the land at once; whereas, in open yards, a great proportion of the fertilizing salts wash out



A STERCORARY.—FIG. 37.

by rains, and evaporate by the sun. There is economy and comfort, also, in keeping everything dry; and besides, it does away with the necessity of removing the manure into heaps, and the expense of water carts and tanks; for the liquid portions

of the manure are just sufficient to moisten and decompose the muck, straw, weeds, and other absorbent materials, with which they are mixed. By this means, the whole of the excrements may be applied to the land, and experience has shown that the crops will grow better than when the manure has been washed.

The size and construction of a stercorary may vary, according to the number of cattle it is to contain, and the taste and means of the owner. As a general rule, the space allotted to each animal should not contain less than 70 square feet, with a bed of litter and muck 3 feet deep. The plan we would prefer to adopt, is shown by figures 36 and 37, being 20 feet wide, and allowing 7 feet in length for each pair of animals. First, a pit may be dug, 20 feet wide, varying in length, according to the number of your herd, and from 2 feet to 2½ feet deep, the bottom of which may be covered with small stones, laid in mortar, or cement, similar to those used in paving streets. Next, a row of posts, 10 or 12 feet long and 8 inches in diameter, may be set in the ground, 10 feet apart, on each side of the pit, with their top ends rising 8 feet above the pavement, or about 6 feet above the surface of the ground, for the purpose of supporting the roof. Then, a water-tight wall, or curb, may be constructed entirely around the sides and ends of the pit, formed of masonry, or wood work, rising about 3 feet above the pavement, or 1 foot above the ground, with the exception of the gateways, which should be left but little higher than the surface, in order to admit the free passage of animals and carts. To the top of each row of posts, there should be spiked, or framed, a plate of wood, 6 by 8 inches, just 20 feet apart, from outside to outside, for supporting the ends of the rafters. The pitch of the roof may be 7 feet, requiring rafters 4 by 6 inches, and 12½ feet in length, a pair of which should be spiked to the plates, once in every 10 feet. To the top of the rafters there should be confined a ridge pole, 3 by 3 inches; and one small purlin on each side of the roof. The latter may be covered with rough boards, 13 feet in length, with their ends projecting 6 inches at the eaves, and the cracks covered with battens 3 inches in width. The gable ends should also be covered with boards, which may be perforated with holes for the passage of pigeons, into and out of their cotes. The roof should likewise be provided with saddle boards on the top, weather boards at the gable ends, and gutters at the eaves, for the better security of the manure from washing by rains.

At each end of the stercorary, there should be a gate sufficiently wide to admit the passage of a cart load of muck, or manure; and around the remainder of the ends and the sides, narrow strips of plank, or rails, should be nailed to the posts, so as to form a substantial barrier, or fence, in order to keep the cattle within their pale. The whole building may be covered with coaltar, paint, or any other materials; or it may be otherwise preserved and ornamented, in such a manner as the caprice or ingenuity of the owner may invent or devise.

On the sunny side of the stercorary, about 5 feet from the posts, fruit trees may be planted, which will not only prove ornamental, but afford both fruit and shade.

If the system of soiling, or stall feeding, is wished to be pursued, racks and mangers can be constructed at the sides of the inclosure, and the cattle can be confined the principal part of the day, as well as at night, and thus effect a saving of almost a double quantity of manure. The pit, when empty, should be filled with *dried* peat, muck, or swamp mud, and littered with straw, refuse hay, weeds, or fallen leaves. As these substances become decomposed and mixed with the urine and excrement of the animals, more may be added, from time to time, in a dry, or pulverized state, with occasionally a sprinkling of powdered plaster, but *never* of wood ashes nor lime.

FACTS IN FARMING.—No. 2.

Cultivation of Potatoes.—The cultivation of potatoes has become so precarious for the last four or five years, that it may be of service to publish an account of experiments, even if they have proved unsuccessful. I will therefore state my experience, such as it is, with a hope that it will be of more or less benefit to those engaged in the same calling as myself.

I have planted on a variety of soils, including a heavy clayey loam, gravel, black vegetable earth, loam, rich in animal and vegetable matter, and on a light, sandy loam. In the latter, I have always succeeded in raising sound potatoes, and I consider such a soil the most certain of producing a sound, healthy crop.

In 1845, I planted my potatoes in April, May, June, and July. Those planted in May, I found succeeded best; and the vines of those planted late decayed early in September, soon after the young tubers began to form.

On the 15th of May, 1846, I planted an acre of potatoes, on a moist loam, suitable for growing Indian corn. One part of the field, I manured with newly-slacked lime; one with wood ashes; one with charcoal; one with bone dust; one with poudrette; and another part with plaster, lime, ashes, and salt, mixed. The result was, that the largest yield and the least rot, occurred where lime only was applied, at the time of planting, in the hill.

Observing that the two rows of potatoes next to the corn, which occupied a part of the last-named field, were entirely free from disease, and produced well, last season (1847), I planted a lot, alternately, with two rows of corn, and two rows of potatoes; also, a small patch exclusively with potatoes, in the same field, manuring the whole with lime in the hill. Those produced between the corn were all sound, and continue so to the present time, and were abundant in their yield; whereas, the others, planted by themselves, were more or less affected with disease. A portion of the ground was sub-soiled to the depth of 16 inches. On this part, the produce was one third greater.

From my experience, as above, I would recommend potatoes to be planted among Indian corn, before the 15th of May, in a light, sandy loam, or some other dry soil, sub-soiled 16 inches deep, with a gill of newly-slacked lime, applied to each hill.

D.

Orange County, N. Y., March 27th, 1848.

YANKEE FARMING.—NO. 4.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

Mr. Doolittle's Argument with Major Goodell on Raising Potatoes.—"I'll tell ye what, Major," said Uncle Sim, pitching his voice in a loud key, and cocking his eye sharply up, "as for drivin' oxen, tho' a little man, you be big punkins and no mistake. I'll never dispute that pint with ye—I gin in at once; but, as for plantin' taters, hain't I done it, man and boy, this fifty year or more, as my father did afore me? And whose bring most in market now, yourn or mine? Jest tell me that. Heh?" "O, yes, let us hear it, Major," he added, in a softer tone, and with a self-evident chuckle, at the same time smartly alapping his breeches pocket, as if he had the extra cash there, he had obtained for his potatoes, to jingle in a climax to his dogmatic assertions. "Wal, now, ain't there Squire Jones, and ain't he got more larnin' than a dozen on us all put together? He never disputes my taters, but ollows asks in his perlitte way when we meet in the spring, 'Mr. Doolittle, my good sir, says he, anything new in the way of potatoes this year? Any new experiments? Any new facts? And does your choice seed continue to hold good? You know I am no competitor with you in the market; I only cultivate them for my own family wants; and whose so good as yours?' Wal, now, that is clever, and Squire Jones is a gentleman, every inch on him; and I mean to vote for him for justice o' the peace and assemblyman, as long as he will consent to sarve the public; and for congressman, too, or leffenant governor, if he is sot up, as they talked on all this winter."

Now, although Major Goodell was the best drummer in the regiment, and it was allowed on all hands, that he could make more noise than any other man on a field day, beating the "double drag" at its head, still he could not hold a coon skin to Uncle Sim, in a set argument; he therefore very wisely abstained from a reply, and instead thereof, gave a hitch forward with his right leg, as if his drum were resting against it, drew a sharp whistling breath by way of pitching his tune, and then commenced beating a rattling rub-a-dub quick step, with the palms of his hands, on the lower region of his stomach, thinking, doubtless, that if he could not rebut Uncle Sim's dogged assertions, he could at least drown the noise of them in a reveille, on his imaginary drumhead.

It was at the commencement of this scene that I happened to be passing, and becoming interested in the matter, I took a neighbor's liberty of stopping to hear it out. I found that Mr. Doolittle had exhausted all but two yoke of his poor miserable steers, wintered on bog hay, with the spring's work of carting out manure, and plowing his corn land, and was obliged to employ Major Goodell's crack team to assist him in plowing his potato ground, agreeing to pay him in an exchange of days' work at hoeing time. While they were preparing their plows for operation, they had got into an argument on the subject of raising potatoes; the Major contending, that land, which had been first cropped with corn, and then heavily dressed with fresh barn-yard

manure, rank sea weed, or other putrescent vegetable matter, spread broadcast and plowed under, and then manuring with the same in addition in the hill, was the best for potatoes; and furthermore that the richest soil, such as was rather moist, because the coldest, was the most suitable for this crop. To this Uncle Sim was totally opposed; "he'd hear nothin' about it; taters raised in sich a way, and on sich a sile, ollows had a tangy taste—was watery, and would rot now-a-days, in spite o' all a body could do. 'Yes, Major, I can git a big crop so, but what's it good for? Jest tell me that, will ye? Not fit for a hog to eat—then howsomedever less for a human critter. I aint agoin' to spile my seed in sich doins; and ye may drum, Major, till ye beat your belly off, and you won't turn me—not you. I'll tell ye what, Sargeant, and I'm glad ye're here now to larn it!"—he continued, turning round to me, and cocking his eye with great earnestness; "if ye want good taters and a good crop, this is the way to git 'em. Take an old pastur with a thick sod, that's got rich itself; let it be sound and poorty dry sile, yet none o' ye're grav'ly knolls; and don't let a critter come on to it in the spring. By the first o' June the grass gits well up, then put in the team; turn a furrer six inches deep, and one foot wide, over the 'jining sod; gee about to the eend o' the furrer, and turn up another jest like the first, layin' its edge close along side on't, as it turns over. This leaves a clean soddy ridge two foot wide. Mind and foller arter the surface plow with a sub-sile plow, stirrin' up the airth six inches deeper, and this will grow rich from the dewes, by hoein' time, and be loose and meller, and all be wanted then for hillin' up. This is a fact I got last year from Squire Jones." Yes, I put in here, and he got that idea from a book, so that's book learning, if you please, Mr. Doolittle. "Wal, it ain't book larnin' for me, which I don't believe in," he stoutly added. "I tell ye what, Sargeant, Squire Jones telled me that himself, and its a first-rate fact o' hizzin, which, as I said afore, I proved last year to my benefit, so don't interrupt me agin. Now, in the center o' this ridge o' turned-up sod, about which I was a tellin' on ye, make holes three inches deep and a foot apart the whole length on't, with a corner o' the hoe, without disturbin' the sod, and drop a piece o' cut tater; put over this a pint o' air-slacked lime, or as much charcoal, or unlatched ashes (the two first are the surest tho'), turn the raised airth back over the seed, give it a spat with the flat o' the hoe, and so go on. The rank, green grass turned in makes the sod rot jest about fast enough to feed the growin' taters; and that part over where the furrers is turned, when the crop is dug in the fall, will be as fine as an ash heap, and the whole field will be well prepared for corn the next spring, which the Major may then manure jest as much as he pleases, and no fault will be found by Simeon Doolittle, or Simeon Doomuch, as folks sometimes call me, when they git kinder jealousy, and think I'm takin' the shine out on 'em in good farmin'; but I don't mind 'em. 'He preaches well who does well.' 'Don't look for honey in a neest o' waaps.' 'Ye can't make a augur hole with a gimblet.' 'Empty vessels make the most noise.' But I'm gittin' afore my story. The taters will only want one hoein'; and the time to do this is, jest afore the

flowers is ready to set. Then run a one-horse plow down and back each row, turnin' the dirt to the taters." "Now ye'll find the benefit o' the sub-silin'; for the way the rich meller airth will turn up," continued Uncle Sim, looking very consequential and wise, at the same time turning his body abruptly round on his right heel, and flourishing his arms, which came within an inch of upsetting both the doughty little Major and myself—"will be bootiful; and a grandacious fact to all sight-seers. Yes, and to them as don't see, and is so contrary as don't believe nothin' 'cept what they think they know themselves; but self-consolate ollous makes a man obstinate. Wal, put in the hoes now and hill up well, and ye won't find a weed scacely in the field all summer, nor a spear o' grass, nor any-thing else, 'cept the thick tater vines, coverin' the ground like a deep green mat. Dig 'em up airly in the fall, and not a speck o' rotten tater will ye find in a hundred; and if the season hasn't been very dry, what big ones they'll roll out! Heh? And how smooth, and thin, and kinder shiny in their skins, and so mealy to eat," continued the eloquent Mr. Doolittle, smacking his lips, "no wonder I git about two times as much a bushel for 'em as anybody else in our town; for they're worth it." "Yes, Sargeant, they're worth it," nodding his head emphatically, "as all the sloop captings say, who go tradin' down to York, with taters and inions." And then he sung:

"'Little boats should keep near shore,
Greater one's may venture more.'"

That's a fact, Mr. Doolittle, I replied, and nothing gives me greater pleasure than to acknowledge your skill in cultivating potatoes, the more especially as we are so often at loggerheads on many other matters. You are a scientific man, sir, upon this crop. The roots of the grass, forming the turf you plow up, abound in potash, and this is one of the most essential manures for a potato crop; next most essential is lime, which acts also as a preventive to the rot; salt is an excellent manure, but we are so near the sea, that some are of opinion we get enough of this from exhalations of the ocean. However, this last is a disputed point, and I'll not dwell upon it. The more mealy the potato, the more starch in it, and this is its principal nutritious quality. Some varieties contain twice as much starch in them as others; and herein the kind you cultivate, my good neighbor, cannot be excelled. Thousands of bushels were lost in our state last year, in consequence of not selecting the right kind of soil, and properly planting and cultivating them; and I dare say, notwithstanding your good example, Mr. Doolittle, and the clear, explicit information you have just given us of your practice, thousands of bushels will share the same fate this year; and all because our brother farmers will not read and follow so excellent an example as yourself. Uncle Sim hung his head, looked down and blushed deeply at my commendations, but said not a word; while the Major paused in his drumming, and declared he "never knowed afore, that we had so much larnin'." He should'n't oppose Mr. Doolittle agin on the tater question; but would start up his oxen now he'd got all fixed, and show him sich plowin' as he'd never seen afore." At this, his splendid red team set off with a "Goit, Buck, now!" and with no other guide for their movements than the Major's voice, while he

held the plow himself, he turned his furrows as straight as one could draw a line, and so evenly I doubt whether they varied over an inch in depth or width throughout the whole field. As he came round in his third land, I was so delighted with the movement of his superb cattle, I could not but say, well, Major, you are really a whole team, that's certain, and you more than make good the old saying, of

"He that by the plow would thrive
Must either hold himself or drive,"

for you, my good sir, hold and drive, too.

"Oh Sargeant, that's nothin'," he replied, "my oxen, dum beasts as they be, know as much, sometimes I think, as some human critters; and they will go right o' themselves any how. Some folks is wise, ye know, and some be otherwise;" and away he started again, whistling Yankee Doodle, while he kept time to his music by drumming with either palm on his plow handles.

Uncle Sim followed with a pair of his recruited steers, close on the Major's heels, holding the light sub-soil plow himself, while his son Bill drove; the Major giving a cheering rub-a-dub every time he rounded the end of his furrow, with a "march along, neighbor, don't fall in the rear; this is the way to stir tater land." "Aye, aye," said Uncle Sim; and as he had two yoke of his steers on the ground, he changed them every fourth bout; and by thus giving them an alternate breathing spell, with Bill to flourish the whip, and stirring his own legs uncommonly quick, he held a pretty even pace with the doughty Major.

It was a great pleasure to stand by and see the glistening plow shares following each other almost like things of life, heaving up the land so beautifully; and as I wheeled round to return home to my own work, I involuntarily began humming a stanza or two of Mrs. Sigourney's noble hymn of "God Save the Plow."

"See how the shining share
Maketh earth's bosom fair—
Crowning her brow.
Bread in its furrow springs,
Health and repose it brings,
Treasures unknown to kings—
God save the plow!"

"Who are the truly great?
Minions of pomp and state,
Where the crowd bow?
Give us hard hands and free
Culturers of field and tree
Best friends of liberty—
God save the plow!"

SERGEANT TELTRUE.

TO PREVENT CHICKENS FROM GETTING THE GAFES.—Let their first food be *coarse* Indian meal, almost dry; then give crushed corn. As soon as they can swallow whole grains, let them have them unbroken. All poultry yards, of course, should be supplied with lime, and the chickens should have free access to pure water. After the gapes appear, the cure is always doubtful; but crushed corn soaked in very strong alum water, is perhaps the best remedy. A soft feather, well greased with lard, thrust gently into the windpipe, and twisted round a few times, has been found effective in bringing up, and destroying the worms, that are the cause of the disease; which is nothing more than an intolerable tickling and itching produced by the motion of the worms.

E. S.

THE GUINEA FOWL.

THE Guinea fowl (*Numida meleagris*), is no great favorite with poultry keepers, in general, but is one of those unfortunate beings, which, from having been occasionally guilty of now and then a trifling fault, has acquired a much worse reputation than it really deserves. Notwithstanding this, it is useful, ornamental, and interesting during life, and a desirable addition to the table, when dead.

The plumage of this bird is singularly beautiful, being spangled over with an infinity of white spots on a black ground, shaded with grey and brown. The spots vary from the size of a pea to extreme minuteness. Rarely, the black and white change places, causing the bird to appear as if covered with a network of lace. A white variety is not uncommon, but is less hardy, and it is doubtful how long either this, or the former one, would remain permanent; probably but for few generations. Pied birds, blotched with patches of white, are frequent, but are not comparable, in point of beauty, with those of the original wild color. The head and face are remarkable. The scarlet wattles, naked skin, distinct mark of the eye brow, bright, glancing eyes, and comical, quick expression, make, at a front view, a perfect miniature of a clown, dressed and painted for the circus, or pantomime.

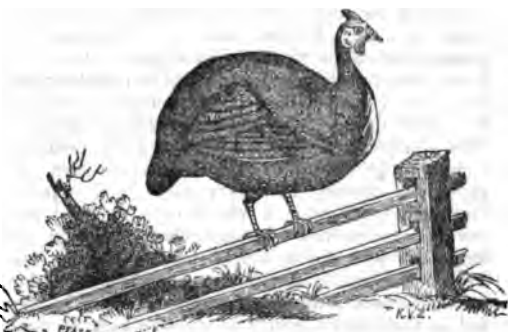
There is one circumstance, in regard to the habits of the Guinea cock, which may not generally be known; that is, he is monogamous, or having one wife only, pairing with his mate, like a partridge, or pigeon, and remaining faithful to her (perhaps with one or two trifling peccadilloes), so long as they continue to live together. It is generally supposed that he, like the common cock, is pleased with a plurality of wives; and the supposition is acted on with bad practical effect. In the case where a Guinea cock and two hens are kept (a usual number), it will be found, on close observation, that though the three keep together so as to form one "pack," according to their original instinct, yet that the cock and one hen will be unkind and stingy to the other unfortunate female, keep her at a certain distance, merely suffering her society, and making her feel that she is with them only on sufferance. The neglected hen will lay eggs, in appearance, like those of the other, but not so many, probably, in the same nest. If they are to be eaten, all well and good; but if a brood is wanted and the eggs of the despised one chance to be taken for the purpose of hatching, the result is disappointment and addled eggs. If the produce of the favorite, or rather the lawful, wife are selected, at the end of the month, you have so many strong chicks; if a mixture of eggs come to hand, the hatch is in proportion. Therefore, let all those who wish to succeed with Guinea fowls, match their birds as strictly as the couples in a country dance.

It is not every one who knows a cock from a hen of this species. An unerring rule is, that the hen alone uses the call note "come back," "come back," accenting the second syllable strongly, from which they are often called "come backs." The cock has only the harsh, shrill cry of alarm, which, however, is also common to the female.

Their amours are conducted with strict decorum

and privacy. The cock, however, is properly polite and attentive to his own hen, in public, walking very close by her side, so as to touch her wings with his own, offering her tit bits, now and then a worm, or a grain of corn; he has also a habit of running very quick for a few steps, and then walking affectedly on tip toe, with a mincing air, like the dandy in a Christmas pantomime, setting up his back and increasing his apparent height. These latter symptoms are less evident in youth, when it is necessary to make the selection, and the call note will be found the safest guide. He attends his own hen to the nest, waits for her close at hand, till she has made her contribution to the treasury already there; and will occasionally betray the situation of the secret hoard, by his extreme solicitude in announcing the approach of intruders.

Of all known birds, this, perhaps, is the most prolific of eggs. Week after week and month after month see little or no intermission of the daily deposit. Even the process of moulting is sometimes insufficient to draw off the nutriment the creature takes to make feathers instead of eggs. As the body of a good cow is a distillery for converting all sorts of herbage into milk, and nothing else, or as little else as possible, so the body of the Guinea hen is a most admirable machine for pro-



THE GUINEA FOWL.—FIG. 38.

ducing eggs out of insects, vegetables, garbage, or grain.

From this great aptitude for laying, which is a natural property, and not an artificially-encouraged habit, and also from the very little disposition they show to sit, it is believed, that, in their native country, the dry, burning wastes of Central Africa, they do not sit at all on their eggs, but leave them to be hatched by the sun, like ostriches, to which they bear a close affinity. It is certain that the sands of tropical Africa are more than hot enough to hatch them, and that the young birds are unusually vivacious and independent, if they have but a supply of proper food, which they would find in the myriads of insects engendered there. They are also found wild on the island of Ascension, but it is doubtful whether any accurate account of their habits, or mode of increase, there is extant.

Rearing, Management, &c.—The best way to begin keeping Guinea fowls, is, to procure a sitting of eggs from some friend, on whom you can depend, for their freshness; and, also, if possible, from a place where only a single pair is kept, the reason for

which, has already been stated. They are in season from the middle of December till May. A Bantam hen is the best mother, being lighter, and less likely to injure them by treading on them than a full-sized fowl. She will well cover nine eggs, and incubation will last a month. The young are excessively pretty. When first hatched, they are so strong and active as to appear not to require the attention really necessary to rear them. Almost as soon as they are dry, from the moisture of the egg, they will peck each other's toes, as if supposing them to be worms, will scramble with each other for a crumb of bread, and will domineer over any little Bantam, or chicken, that may perhaps have been brought off in the same clutch with themselves. No one, who did not know, would guess, from their appearance, of what species of bird they were the offspring. Their orange-red bills and legs, and the dark, zebra-like stripes, with which they are regularly marked, from head to tail, bear no traces of the speckled plumage of their parents.

Hard-boiled egg, chopped fine, small worms, maggots, bread crumbs, chopped meat, or suet, whatever, in short, is most nutritious, is their most appropriate food. This need not be offered to them in large quantities, as it would only be devoured by the mother Bantam, as soon as she saw that her little ones had for the time satisfied their appetites; but it should be frequently administered to them, in small supplies. Feeding them three, four, or five times a day, is not nearly often enough; every half hour, during daylight, they should be tempted to fill their little craws, which are soon emptied again by an extraordinary power and quickness of digestion. The newly-hatched Guinea fowl is a tiny creature, a mere infinitesimal of the full-grown bird; its growth is consequently very rapid, and requires incessant supplies. A check once received can never be recovered. In such cases, they do not mope and pine, for a day or two, like young turkeys under similar circumstances, and then die; but in half an hour after, being in apparent health, they fall on their backs, give a convulsive kick or two, and fall victims, in point of fact, to starvation. The demands of nature for the growth of bone, muscle, and particularly of feather, are so great, that no subsequent, abundant supply of food can make up for a fast of a couple of hours. The feathers still go on, grow, grow, grow, in geometrical progression, and drain the sources of vitality still faster than they can be supplied, till the bird faints and expires from want of fullness.

This constant supply of suitable food, it is believed, is the great secret in rearing the more delicate birds, turkeys, Guinea fowls, pheasants, &c., never to suffer the growth of the chick (which goes on whether it has food in its stomach or not), to produce exhaustion of the vital powers, for want of the necessary aliment. Young turkeys, as soon as they once feel languid, from this cause, refuse their food when it is at last offered to them (just like a man whose appetite is gone, in consequence of having waited too long for his dinner), and never would eat more, were food not forced down their throats, by which operation they may frequently be recovered; but the little Guinea fowls give no notice of this faintness, till they are past all cure; and a struggle of a few minutes shows that they have, indeed,

outgrown their strength, or rather that the material for producing strength, has not been supplied to them in a degree commensurate with their growth.

A dry, sunny corner, in the garden, will be the best place to coop them with their Bantam mother. As they increase in strength, they will do no harm, but a great deal of good, by devouring worms, grubs, caterpillars, maggots, and all sorts of insects. By the time their bodies are little bigger than those of sparrows, they will be able to fly with some degree of strength; and it is very pleasing to see them essay the use of their wings at the call of their foster mother, or the approach of their feeder. It is one out of millions of instances of the provident wisdom of the Almighty Creator, that the wing and tail feathers of young gallinaceous birds, with which they require to be furnished, at the earliest possible time, as a means of escape from their numerous enemies, exhibit the most rapid growth of any part of their frame. Other additions to their complete stature are successively and less immediately developed. The wings of a chicken are soon fledged enough to be of great resistance to it; the spurs, comb, and ornamental plumage do not appear till quite a subsequent period.

When the young Guinea fowls are about the size of quails, or perhaps a little larger, their mother Bantam (which we suppose to be a tame, quiet, matronly creature), may be suffered to range loose in the orchard and fields, and no longer be permitted to enter the garden, lest her family should acquire a habit of visiting it at a time when their presence would be less welcome than formerly. They must still, however, receive a bountiful and frequent supply of food; they are not to be considered safe till the horn on their heads is fairly grown. Indian meal, as a great treat, cooked potatoes, boiled rice, anything, in short, that is eatable, may be thrown down to them. They will pick the bones left after dinner with great satisfaction, and no doubt benefit to themselves. The tamer they can be made, the less troublesome will those birds be which you retain for stock; the more kindly they are treated, the more they are petted and pampered, the fatter and better-conditioned will the others become, which you design for your own table, or as presents to your friends, and the better price will you get, if you send them to market.

At a certain period, they will have got beyond the management of their good little Bantam mother, and will cast off her authority. They will form what has appropriately been called a "pack;" prowling about in a body, after insects, and seeds, or grazing together (for they eat a great deal of grass), still in a pack; fiercely driving away any intruder on their society, and all giving tongue, in one chorus, at the approach of any danger. When fully grown, they weigh from 3 to 4 lbs.

Birds, thus reared on the spot, where they are meant to be kept, are sure to thrive better and give less trouble than those procured from a distance; they sometimes, will not remain in their new home, but wander about in search of their old haunts till they either find them, or are themselves lost, destroyed, or stolen.

It is of no use to shut up these fowls to fatten, unless, they have previously been made particularly tame, as they would sulk, pine, and die, before they

became reconciled to confinement, in spite of its extra diet. The only plan, therefore, is to keep them in high condition during the winter, by liberal hand feeding. The best practice is not to kill them with the knife, like other poultry, but to dislocate their necks, leaving the blood in them to remedy the dryness of their flesh, which is the great fault an epicure would find with them. They should also remain in the larder as long as possible before being cooked. It was formerly the fashion for farmers' wives and daughters to make tippets and muffs of the smaller feathers, which much resembled chin-chilli fur in appearance, and were both elegant and useful.

Condensed Correspondence.

MANAGEMENT OF PEACH TREES.

Mr. W. D., of Morristown, N. J., is of the opinion, that, where pruning standard peach trees is so little practised as in New Jersey, thinning out the fruit, is an excellent plan. The peach tree, he says, is very apt to overbear; and when loaded down with fruit, its branches are very weak at the forks, split, and fall to the ground; thus, not only destroying a considerable quantity of its fruit, at the most unwelcome period, but often greatly disfiguring the tree; whereas, by thinning out the fruit, when quite small, injuries of this kind, would be obviated. But, in large orchards, this would prove a tedious process and somewhat expensive.

Mr. D. is not an advocate of root pruning; for, in removing the dirt, he contends, that the larger roots must be more or less mutilated, or bruised, by the hoe or spade, which certainly can be of no advantage; and besides, in orchards, that are cultivated by the plow, there will be an abundance of root pruning, without resorting to other means.

WOOD ASHES BENEFICIAL TO MEADOWS.

Mr. S. R. GRAY, of Salem, N. Y., informs us that, in the fall of 1845, he sowed 25 bushels of unleached ashes on two acres of meadow, situated on a hill side, facing the west, which had been mown annually for thirty years. The last crop of hay from this ground, preceding the application of the ashes, did not exceed half a ton to the acre; but the next year after (1846), it was more than double that quantity. The year following (1847), the hay crop was mown three weeks earlier than usual, and was more than one fourth heavier than that of 1846.

Mr. G. attributes the increase of the last crop, in part, to the influence of a small stream of water, by which one half of the meadow was overflowed during the early part of the season; yet he concludes that, the principal cause of the increase, was the application of the ashes, which he thinks amply repaid the cost.

DISEASE AMONG CATTLE—A REMEDY.

Our estimable correspondent, John Brown, 2nd, of Lake Winnipisiogee, writes us, that, between March and June, 1835, he lost eight of his cattle, by a disease, which, according to some of the symptoms given, we should judge, was the *garget* in the limbs, otherwise called *hide bound*, *joint yellos*, and *constitutional rheumatic lameness*. He tried various remedies, but with no good result,

until three others were taken with the same disease, when he procured some garget or poke-berry root (*Phytolacca decandra*), with which he pegged them in the dewlap (the loose skin, or lappet, under the neck), and effected a cure.

The nature of the disease here referred to, together with the operation of "pegging," will be given, at length, in our next article on "The Cow—her Diseases and Management."

GRAFTS FROM THE OLD WYLLIS APPLE TREE.

Our friend, R. L. Colt, Esq., of Paterson, N. J., informs us, that he has lately received some grafts of the "sweet or old English pearmain," taken from the venerable tree now standing on the "Charter-oak Place, at Hartford, in Connecticut, which was brought from England, by George Wyllis, the elder, about the year 1637. It is now regarded as one of the oldest apple trees in the country, and is a mere wreck, as it were, nothing being left of it, but a small segment of bark and wood, not more than 3 or 4 inches thick, and a few branches apparently without life. It has evidently been a very large tree, probably nearly 4 feet in diameter.

Last year, it bore a few very fair apples, of a pear-like consistency, which were quite rich in flavor, though seemingly sweet, and answered admirably well for cooking. Being desirous to perpetuate this fruit, Mr. Colt has taken great pains to procure scions from the original stock, and engraft them on healthy trees of his own, having no faith in the idle theory of varieties running out.

GROUND IVY, OR ALE HOOF, A PERNICIOUS WEED.—Mr. F., of Fairfax county, Va., inquires whether there is any way to exterminate ground ivy (*Glechoma hederacea*), otherwise called "ale hoof," "tun hoof" and "Gill-over-the-ground." He is satisfied that it cannot be killed by plowing nor digging; for, a very small portion of the plant, left in the ground, will spring up and grow, and even the small knots, on the vines, will take root at every joint.

This weed, in Virginia, forms a complete mat, wherever it is suffered to grow. In gardens, orchards, &c., it becomes so firmly rooted, that it is almost impossible to eradicate it from the ground; and in meadows, the grassy turf affords but little opposition to its progress.

REMEDY FOR THE BORER IN THE APPLE TREE.

Mr. J. M. C., of Perth Amboy, N. J., writes us that he has found an effectual remedy against the attack of the apple-tree borer (*Saperda bivitatta*), first by scraping away the earth from the roots of the tree, and extracting the worms from the wood, with a sharp-pointed instrument, or chisel, and then plastering over the roots and wounded parts of the trunk, with common mortar, formed of lime and sand, after which the earth is put back and the tree treated in the usual way.

SCARECROWS.—E. W. A., of Panama, N. Y., states that he has succeeded in preventing crows from pulling up corn, by placing about his field, when planted, ears of corn, stuck on pointed stakes, from 5 to 10 feet in length. The crows, he says, will only devour the corn on the stakes, leaving that in the ground untouched.

Ladies' Department.

ON THE CULTURE OF SILK.

If I have not promptly replied to the very flattering appeal of your correspondent, S. H. R., in the July number of the *Agriculturist*, "to support her proposition in favor of raising silk worms," I trust she will kindly attribute my apparent neglect to any cause, rather than indifference to her good opinion, or disinclination to aid her in so praiseworthy an undertaking, so far, at least, as my feeble powers may permit.

I have seen many successful attempts at silk culture, and know it can be made, even when carried on in a small way, by individual enterprise, very profitable to those who engage in it with a proper spirit, and under favorable auspices; but to make it so, many things are requisite that are not always at command. In the first place, it requires more time during the silk season, than the mother of a family can have to bestow, if she attends personally to her children, and superintends her household; but in families where the children have advanced beyond the mother's hourly watchfulness, and where all are able and willing to unite in the common interest, by a judicious division of labor, it would be both pleasant and profitable, to take charge of a small cocoonery; and, as from four to six generations of worms can be reared in succession, before the leaves fail in autumn, the quantity of raw material produced, in a single season, would, when sold, make no small addition to the usually small gains of the female part of a farmer's family. A few years ago there was a liberal bounty paid on cocoons in the middle states, which is still, I believe, allowed in some of them. They usually command a high price at the factories, and for reeled silk, also, there is a ready sale. Therefore, when individuals wish to engage in silk culture, with a view to make it profitable, they should confine themselves to the only branch, that on a small scale, can be made so—the care of the worms and the sale of the cocoons. The first object should be, to plant at least two years in advance, a sufficient number of mulberry trees, in order that the worms may be furnished with an early and ample supply of the proper kind of food. The most experienced silk culturists here, and it is said, in France also, prefer the leaves of the many-stalked mulberry (*Morus multicaulis*), said by some botanists to be an improved variety of the white mulberry (*Morus alba*), which is a native of China, and is exclusively used by the Chinese and Italians, for feeding silk worms. In the United States, both of these varieties flourish as far north as the forty-third degree of latitude. The mulberry trees require no care after the first year, unless they are lopped down, and kept as pollards, for the greater convenience of gathering the leaves.

In cases of necessity, very young worms may be fed, without injury, for a few days, upon the leaves of lettuce, or the tender buds of the black mulberry; but experience has amply proved, that it is only when they are restricted to the proper kind of food, before mentioned, that silk of the finest texture, and highest lustre can be produced.

This used to be rather a tender subject with me;

but, having burnt my fingers by an amateur experiment in silk culture during the prevalence of the "*Morus multicaulis* fever," which a few years ago proved the ruin of many a fair fortune, I, like most of my neighbors, caught the infection, and my pulse rose to a hundred and ten, at least. But I did not meddle with buying, nor planting trees; nothing would abate the fever but raising silk worms. As my difficulties furnished the subject for a good deal of mirth in the home department, at the time, I am willing to let others be amused, though they may not be much benefitted by my experience. With the natural history of the insects, I was, of course, well acquainted; and knowing they lived but a few weeks, and as I was always fond of pets, I thought it would be very clever to attend to them; and I anticipated, with great satisfaction, the pleasure of knitting divers purses and gloves of my own silk, to present to my friends as specimens of my success and skill. My wish was speedily gratified by a kind old gentleman (I have since had good reason to believe he was amusing himself at my expense), who sent me a quantity of silk worms' eggs, which, as they had been taken from their winter quarters, in his cellar, soon felt the effects of the warmer temperature of my sitting room, and all hatched out in my writing-desk drawer, before the mulberry leaves even thought of being ready to be eaten. I therefore fed them for ten or twelve days with the full-grown leaves of lettuce from the hot bed, and, as might have been anticipated, a large proportion of them died, happily, in their tender infancy; an event I mourned over at the time, but like all unreasonable sorrow, I soon acknowledged was "all for the best."

I still had several thousand worms left, in fine health, and with ravenous appetites; and as I had neglected to provide proper accommodations for such an increase in my family, and as the carpenter was too busy to attend to my wants, I deposited my pets in a large, airy garret room, on tables; and as they grew larger and required more space, boards were spread over an empty bedstead, then from chair to chair, filling the whole room, except the necessary passages between and around them. Here I fed them regularly, and kept them accurately clean, and found myself exceedingly interested in watching their habits and changes. It was healthful, and pleasant, too, to walk every evening to the field of the neighbor from whom I had engaged my mulberry leaves, and gather the supply for the next day; but by the end of a month, the work became intolerably burdensome, and though I had several little "domestic familiars" to assist in cleaning the hurdles and bringing the leaves, I was closely occupied in my attic

"From morn till dewy eve,"

and was then too tired to gather the leaves for myself. The quantity consumed by the little creatures exceeded belief. I could not bear to see them suffer for want of proper care, and it happened that those of the household who would cheerfully have relieved me of part of my labor, were absent from home. So I toiled on, in defiance of heat, fatigue, and disgust (perhaps a little too proud to give up my favorite scheme), after having so confidently predicted the success of my undertaking; but I cannot think,

even now, without a shudder, of the disgust, almost amounting to horror, when any of the heavy, cold worms fell upon my hands, or crawled over my dress. Yet,

"The best laid schemes of mice an' men
Gang aft a-gley."

And mine were not an exception to the rule; for long before the worms had spun their self-made shrouds, I began to reflect upon the consequences of pursuing my whim to the end, and came to the conclusion that the most signal success that could possibly crown my exertions, would not be the smallest compensation for the waste of the most precious gift of God to man; for time spent in fruitless labor, or selfish amusement, is *wasted* to all intents and purposes. I therefore hired a person to take charge of my "cocoonery," and as soon as the worms had wound themselves up, I reeled off a single skein of silk, to be kept as a talisman against future temptations to mispend my time, and gave the remainder of the cocoons to my young assistants, who, entering into the business with a little experience and a great deal of zeal, realized enough, during the season, to provide a large room, suitably furnished with hurdles, &c., for the following year, and made it a profitable concern for several succeeding summers.

Silk stuffs are no longer sold for their weight in gold, as was the case with those carried from Asia to Rome, to minister to the prodigality and luxury of the cruel and sensual Heliogabalus, who possessed the first dress of the kind that was seen there, and was severely censured for wearing a garment made wholly of silk. They are now comparatively cheap, and I do not grudge to the French and Italian artisans, the profits arising from the manufacture of their beautiful fabrics; but I agree most heartily with your intelligent correspondent, in thinking that we should both be wealthier and happier, if we had not the vanity to desire to shine in imported finery; and that if we must wear European velvets and satins, we might, at the least, furnish their work shops with the raw material.

E. S.

Eutawah, March 8th, 1848.

HOW TO PREVENT THE RAVAGES OF MOTHS.—

The ravages of the woolen moth may be prevented, by the use of any of the following substances:—Tobacco, camphor, red pepper, turpentine, and perhaps the most agreeable for wearing apparel, a mixture of one ounce of cloves, one ounce of rhubarb, and one ounce of cedar shavings, tied up in a bag, and kept in the box, or drawer. If the substance be dry, scatter it in the folds of the cloth, carpet, blankets, or furs; if liquid, sprinkle it freely in the boxes, or on the cloth or wrapper, laid over and around it.

HOW TO CLEAN THE CHIMNEYS OF LAMPS.—

When the chimneys of lamps become foul, or covered with a white crust, that can neither be washed off, nor removed in the usual way, rub the inside with whiting, and strong vinegar; and then rinse with clean water, and wipe them perfectly dry.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 2.

THE atmosphere, you are probably aware, is the great supporter of animal life, though it may not be so apparent to you, it is equally essential to vegetable existence; for it is a well-established fact, that no plant can live, without the presence of atmospheric air. The question now very naturally arises, in what way does air exert such a controlling power.

I cannot answer this, before I have told you of what the atmosphere is composed, as it contains several ingredients, with each of which, it is necessary you should be made familiar. These ingredients, I shall call *constituents*. As the air itself is a gas, its essential constituents must also be gases. By the term *gas*, you are to understand a substance, or body, similar to air. The two principal constituents of the air are called *oxygen* and *nitrogen*. The former derives its name from two Greek words, which signify the *generator* or *producer of an acid*; because it enters into the composition of nearly all acids; the latter is derived from *nitre*, or *nitric acid*, of which it is an important ingredient. About four fifths of the air consists of nitrogen; although the quantity of oxygen is so small, when compared with that of nitrogen, that the former must be considered as the more important agent. Oxygen may, in fact, be regarded as the main actor, in nearly all the great operations of nature. Without its presence, the fires on our hearths would be instantly extinguished. Animal life could not be sustained beyond a few moments without it; neither can vegetables exist where oxygen is not present. This gas also enters into the composition of nearly all earths and minerals. It is never found in nature, however, except in combination with other bodies. (By the term *bodies*, I mean *substances* of any kind). When oxygen is separated, by a chemical process, from any of its combinations, and examined, it is found to be possessed of neither taste nor smell, though when inhaled, it has a remarkably exhilarating effect, and animals confined in pure oxygen soon perish.

Nitrogen is possessed of a very different nature, which seems directly the opposite of its twin sister, oxygen. An important office of nitrogen, appears to be, to dilute the oxygen, as it were, and thus prevent the disastrous consequences which would ensue, if the latter were permitted to exert its mighty energies without restraint. This gas manifests an indifference to all substances, and appears to be rather a spectator than an actor, in this great laboratory of nature. When an animal is placed in pure nitrogen gas, it expires for want of oxygen; or if a lighted candle be immersed in it, for the same reason, it will be immediately extinguished.

Besides the two gases we have just examined, and which form so large a proportion of the mass of the atmosphere, there are others which are of no less consequence, in moving the machinery of nature. One of them is *carbonic acid*. This is found in the air, in the average proportion of about *one part*, to every *two thousand* of atmosphere. Small as this quantity appears to be, we have reason to believe, and in fact it has been proved, that vegetables would cease to grow, and soon perish, if absent

from the air. Carbonic acid gas, is not like oxygen and nitrogen, a *simple*, or *elementary* substance. By these terms, I mean a body which is not combined with any other. This gas is a compound of charcoal (which chemists call carbon), and of oxygen. Carbon is one of the elementary bodies, and enters largely into the composition of all vegetables, as well as of animals. When animal, or vegetable matter is consumed, as wood and hair, the carbon it contains, unites with a certain proportion of the oxygen of the air, and forms the gas called *carbonic acid*. Now, as a given bulk of this gas is much heavier than the same quantity of atmospheric air, you would naturally suppose that it would all settle upon the earth by the force of gravity; but such is not the case. On the contrary, it rises, when formed near the earth, and diffuses itself through the body of the atmosphere, even far above the tops of the highest mountains; for, the *gases, composing the atmosphere, are governed by a law which compels them to mingle together, no matter how great the difference in their densities, or weights, uniting merely by mechanical mixture, and not chemically combined.* This is one of the innumerable illustrations which science affords, of the agency and controlling power of Supreme Wisdom. Were the carbonic acid, which is so widely diffused throughout the vast regions of the air, to be drawn downward by the same force that operates on solid bodies, the immediate suffocation and death of every breathing creature, would be the inevitable result! (a) You have undoubtedly heard of deaths produced by vessels of burning charcoal, in a close sleeping apartment. In such cases, it is the carbonic acid that destroys life. I do not think you ever heard of any one, possessing even a slight knowledge of chemistry, who has been a victim to this suicidal method of procuring warmth. This body is called an acid, because, although existing in a gaseous state, it yet possesses properties peculiar to all acids. I shall say nothing further about it at present, only to advise you to remember what has been said; and not to suppose, that, because there are only about one part of it in two thousand parts of air, that it is deserving of but little notice. One of the peculiarities, or rather beauties of nature's doings, is to produce vast results by simple means and apparently inferior agencies.

There is another constituent, which has not until recently been admitted by chemists, into the family of the gases, of which the atmosphere is composed. This is *ammonia*, a gas which, like carbonic acid, is a compound. It is formed by the union of nitrogen and hydrogen. The former has been described, and the latter I will defer, until I treat of water. Ammonia is a colorless gas, and when in a pure, or concentrated state, it is characterized by a remarkable pungency. *Smelling bottles* are filled with a solution, or substance, which emits this gas; after once inhaling it, you will not be liable to mistake its odor. The reason why we do not smell ammonia, at all times, in the air, is, because its proportion is so small. It is very soluble in water which will absorb more than 500 times its own bulk, and when thus saturated, it is called *spirits of hartshorn*, or *aqua ammonia*. As it is always present in rain water, snow, and hail, it is often perceptible to the smell after a shower.

In addition to the constituents already described, *watery vapor* is always present in the air, though in variable proportions. There is usually more vapor in the atmosphere in warm, than in cold, weather. It is produced, as you are probably aware, by the constant evaporation of water from the surface of the earth and the ocean, and from rivers, seas, lakes, &c. When the air becomes saturated, or filled with vapor, a slight cooling causes it to condense in the form of clouds; and when it becomes so much condensed that the air can no longer bear it up, it falls to the earth in the form of rain, hail, or snow. A good illustration of this condensation is seen, when an earthen, or glass vessel is filled with cold water, in a warm atmosphere. The outer surface of the vessel, in becoming cooler than the surrounding air, causes the vapor, which comes in contact with it, to condense, and thus it is covered with a watery film, sometimes called *sweat*. Vapor is not a simple or elementary substance, but is principally composed of two gases, which will be described when I take up the subject of water.

There are numerous other ingredients in the air, which has been called "accidental constituents;" as *nitric acid* (a combination of nitrogen and oxygen), which is always present after a thunder shower; *dust*, after a long continuance of dry weather; the *vapor of sea water* and its constituents, near the sea coast; the *odor of trees*, plants, flowers, or fruits; and some compounds of *carbon*, *phosphorus*, and *sulphur*, with *hydrogen*, which are found in the vicinity of marshes. In my next letter I shall treat of water.

J. MCKINSTRY.

Greenport, Columbia Co., N. Y.

(a) Were the gases of the atmosphere separately to obey the natural law of gravitation, like all other bodies with which we are acquainted, the ocean and lower parts of the earth would be covered with a stratum of carbonic acid gas, 15 or 20 feet in thickness. The oxygen and nitrogen, too, instead of being uniformly mixed throughout the whole atmosphere, as at present, would form two immense layers, of unequal thickness, arranged in the order of their densities, the oxygen below and the nitrogen above. In such a state of things, animal and vegetable existence would be out of the question; and all the phenomena of combustion and oxidation, would be increased, over the chief part of the earth's surface, in ten-fold power.

A LESSON IN ENGINEERING.—"My son," said an engineer, "come hither; I want to show you something."

"Well, father, what is it?"

"Do you see this kettle bail?"

"Yes."

"There"—standing it up perpendicularly on the table—"do you see that?"

"Yes, sir."

"Well, then," laying it down upon the table, "do you see that? Well, it is no farther round that bail as it lies flat, than it is over it when it stands up. So, when you come to a hill, remember it may be no farther around the base than over the summit, while it is a great deal easier."—*Exchange Paper.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer *Hibernia*, we are in receipt of our foreign journals to the 25th of March.

MARKETS.—*Ashes* no change. *Cotton*, a decline from *id.* to *id.* per lb. *Beef and Pork*, a slight advance. *Lard*, heavy sales at a trifling decline. *Wheat*, an advance of 1s. to 2s. per quarter. *Flour*, a corresponding advance. *Indian Meal*, a little lower. *Cheese*, in good demand. *Naval Stores*, firm. *Rice, Tobacco, and Wool*, dull.

Money continues abundant at a low interest.

The Weather had been favorable thus far, and the spring crops were looking well.

American Ice in England.—The packet ship, *Washington Irving*, arrived at Liverpool, from Boston, with 937 tons of American ice, being the first cargo of the season.

American Hops.—A vessel from Boston, arrived in Liverpool lately, bringing fifty bales of hops of United States growth. This is the largest importation of this particular article of merchandise, which has yet taken place, into this country from America.

Poisonous Pork.—A captain of a vessel, from Constantinople to Wexford, and several of his crew, died from eating pork preserved in a leaden cistern.

Importation of Gutta Percha.—The importations of gutta percha continue to take place in large quantities. A vessel just arrived from Singapore has brought 1,386 packages and 5,084 blocks of this article.

Planting Trees on Railway Embankments.—It has been proposed to plant railway embankments with larch trees, which would supply the sleepers required from time to time, and would also return a profit from the thinnings, &c., which might be sold for hop poles or for other purposes.

Glass Water Taps.—Brass cocks always become leaky sooner or later, according to the corrosive quality of the liquid they transmit. Could not glass be substituted and adapted by the intervention of wood, gutta percha, cement, or some other material?

Failure of Liebig's Manure, Guano, Ammonia, &c.—At a late meeting of the Royal Agricultural Society of England, an interesting discussion took place on the effects of Liebig's "Patent Manure," on the wheat crop; the time of using guano, and the comparative value of ammoniacal and mineral manures. From the evidence adduced, it would seem that Liebig's manure, when applied to the wheat crop, proved a failure, under circumstances where nitrogenous or ammoniacal matter was accidentally absent; that there was a decided advantage, in using guano on heavy soils, in the autumn, at the time of preparation for sowing (when the wheat is not sown earlier than November); and the strong corroboration afforded by the views of Mr. Lawes, in the last number of the *Journal of the Royal Agricultural Society*, "that nitrogenous manures are of the first importance as far as the wheat crop is concerned; and that if these are deficient, mineral manures cannot, by any means, supply their place."

Tea Culture in India.—In an account of the cultivation and manufacture of tea in China, recently published in London, Mr. Ball, the author, after an official residence in that country, states that he has lately seen two samples of tea, one black and the other green, made at Kamaon, in the upper provinces of India. They were both deficient in strength and flavor, but still excellent teas. The Hyson tea, especially, would find a good and ready sale in India and England. And yet it is certain that these teas are all prepared from the southern species of tea, which is admitted to be inferior in quality to that of the more northern Chinese provinces. Such being the important result of the Himalayan experiments in tea cul-

tivation, it will excite no surprise in our readers to learn that, upon the recommendation of Lord Hardinge, the Court of Directors have authorised the outlay of £10,000 a year, in extending and improving their plantations.

Thick and Thin Sowing.—In a Prize Essay on Thin and Thick Sowing, lately written by Mr. Mathew M. Milburn, we extract the following, which has been deduced from well-tried experiments:—

"1. That thin sowing, and especially dibbling, is a very unsafe process, as regards quantity per acre of produce. 2. That despite hoeing, where it can be practised, it encourages weeds. 3. That it grows coarser produce, and of less value to the miller. 4. That it does not ripen so early. 5. That on a sandy soil, very dry, and not productive, it was unsuccessful in the writer's own experience. 6. That on gravelly clay, with a higher elevation, it was unsuccessful with Mr. Watson's experiment. 7. That on very productive land, in a rich state, it was also unsuccessful."

Mode of Disintegrating Bones without the Aid of Sulphuric Acid.—Mr. Miles, of the Royal Agricultural Society, has discovered a process for preparing bones for manure, without the use of acids, as described by Mr. Pusey in the last part of the Society's *Journal*; that instead of sand, ashes, or earth, it was a great improvement to use sawdust as the material for covering up the heaps; double the amount of heat being evolved, and the disintegration being effected much more rapidly and effectually. He piled up the bones into a heap, which he moistened well with water, and then covered over to the depth of 2 or 3 inches with sawdust, a process by which not only the bones themselves were rapidly converted into manure, but the sawdust itself also. By this process, however, the decomposition of much ammonia would take place, and escape in a volatile state, as it is developed, and be lost.

Mode of Mixing Bone Dust with Sulphuric Acid.—Lay 80 bushels of bone dust in a conical heap; pour on water till it begins to run off at the base; leave it for a couple of days; then spread it abroad somewhat, leaving a raised rim (which should be trampled firm), and a basin-shaped cavity; pour on more water till it will no longer remain in the heap; and then slowly pour about 1,000 lbs. of sulphuric acid over the heap. Turf ashes (about 300 bushels), may, with advantage, have been previously laid around the edge of the heap. When the heat has somewhat subsided, mix the bone dust together again, into a conical heap; cover it with the ashes; and leave it for a few weeks. The whole may then be mixed with the dry ashes, and will be ready for drilling. It will suffice for from 10 to 20 acres.—*Agricultural Gazette.*

Salt not good for Barn-door Fowls.—Gallinaceous birds, reared by the sea side, or on the banks of a salt-water river, avoid the saline stream, and search for food and drink as far inland as they can range. I know not how common salt could be administered to them. It is more than doubtful whether the hens would pick it from the ground in its crystalline form, and it would be difficult to distribute it in equal doses by means of bread, &c., soaked in salt water. The chances are, that some of the hens would be poisoned. Pigeons, I think, are the only domesticated birds to whose health salt is beneficial, and they prefer it in combination with animalized matter; the more offensive it is to our senses, the more agreeable it appears to theirs. Hens, too, are great pickers of bones. I have seen one devouring the flesh, and cleaning the skeleton of her dead husband, doubtless on the native Australian principle of respect and affection for the deceased. Salt, in a liquid state, acts as an emetic with fowls, as with dogs.—*Ibid.*

Editor's Table.

RETAIL PROVISION MARKET.—Our readers will find a new, and as we think, a highly useful and interesting addition to our wholesale Price Current, at page 165, of this number. If it finds favor with them, we shall continue it throughout the year.

STATE OF VEGETATION IN NEW YORK.—On the 1st of April, the weeping willow burst its buds, and on the 15th was nearly in full leaf. From the 8th to the 12th, the apricot, peach, white poplar, elm, and red-flowered maple, were in bloom. On the 11th, a horse chestnut, in Trinity Church Yard, was in leaf. On the 7th, the lilac, privet, and larch were beginning to unfold their leaves.

LOSS OF COL. SHERWOOD'S BARN BY FIRE.—We learn with much regret, that the large barn and ample range of stables attached to it, of Col. J. M. Sherwood, of Auburn, took fire the past month, and were totally consumed, together with a considerable quantity of hay, grain, &c. As this happened in the afternoon, when nearly all the stock were turned out in the yards, to take fresh air, they were all saved. Col. S. had just completed an ample range for feeding upwards of one hundred head of fat cattle, and as his stock accommodations otherwise were quite ample, he suffers a great loss, which we the more regret, as he is one of the most enterprising farmers in western New York, and has done much for the past ten years in rearing and diffusing improved stock of all kinds in that section of the country. We sincerely hope this loss may be made good to him, shortly, in some way.

THE NORMAN HORSE, LOUIS-PHILIPPE.—We had the pleasure of examining this superb young stud, accompanied by his owner, Mr. Robert B. Howland, on the 15th of March last, when on his way from New Jersey to Union Springs, Cayuga county, N. Y., where he is to stand, for the purposes of breeding, during the ensuing season. In our next number, we hope to be able to give his pedigree and history, illustrated by a portrait.

STILTON CHEESE.—At a late meeting of the Executive Committee, of the New York State Agricultural Society, a sample of "Stilton cheese" was received from L. F. Allen, President of the society, made by Mr. Henry Parsons, of Guelph, Canada West, which, in the opinion of said committee, was of a superior quality. We have received some from the same source, and had it tried among our friends, who all agree that it is equal to any they have ever imported direct from Europe.

A NOVEL SIGHT.—A few weeks ago, our attention was drawn to a crowd in this city, which had gathered around a waggon load of common land tortoises, some 600 or 700 in number, varying in size from the bigness of a boy's hand up to that of a horse's foot. On inquiry, as to the uses to which they were to be applied, we found that they were chiefly purchased by boys, at 12½ to 25 cents each, to be kept in gardens and yards, as pets, and for frightening off rats and devouring insects and worms. In winter, they are taken into the cellar, where they live in a torpid state, and are returned into the garden again in the spring.

THE PICTORIAL HISTORY OF ENGLAND; being a History of the People, as well as of the Kingdom. Illustrated with Several Hundred Wood Cuts of Monumental Records; Coins; Civil and Military Costume; Domestic Buildings, Furniture, and Ornaments; Cathedrals and Other Great Works of Architecture; Sports and Other Illustrations of Manners; Mechanical Inventions; Portraits of Kings and Queens; and Remarkable Historical Scenes. By George L. Craik and Charles Macfarlane assisted by numerous Contributors. New York: Harper and Brothers. The

fourth and last volume of this splendid work has been issued, which completes the series. It is comprised in four large octavo volumes, of about 875 pages each, neatly got up, handsomely printed, and may be had at the bookstores for \$14. This may seem rather an extravagant price to some; but when they consider the immense expense bestowed upon its preparation (\$250,000), its intrinsic worth as an authentic record; and, being as it is, the most valuable, and the only history of England ever published, that is adapted to the taste and wants of the American people, it cannot be regarded otherwise than cheap.

ADVENTURES IN MEXICO AND THE ROCKY MOUNTAINS. By George F. Ruxton, Member of the Royal Geographical Society, at London. New York: Harper and Brothers, pp. 312, 12mo. Price 75 cents. Those who wish to know something of the soil, climate, and inhabitants of the provinces which divide Mexico from Arkansas, forming, also, an eastern frontier to California, we would advise to read this interesting book. Mr. Ruxton rode from Vera Cruz, through Mexico, soon after the commencement of the late war, wintering on the Rocky Mountains, and extending his journey, in the spring, to California; and thence to New York, by the way of the great lakes. This work abounds in the wildest adventures, often terrific and dangerous in the extreme, and conveys, in a graphic manner, a vast amount of useful information, not to be found in any other publication.

ANALYSIS OF THE CORN PLANT.—We are happy to learn that Mr. R. L. Colt, of Paterson, N. J., inspired by the love of his country's good, has employed Dr. C. T. Jackson, of Boston, to make complete analyses of several varieties of Indian corn, including the stalk, leaves, shucks, kernel, cob, &c., with the view of ascertaining their comparative value as food for stock.

TRANSPLANTING EVERGREENS.—Evergreens, if transplanted in dry, bright weather, are apt to die, because the action of dry air and bright light upon their leaves robs them of their fluids faster than the wounded roots can replace them. But, if transplanted in damp, cloudy weather, they are saved from this risk, and have time to renew their roots before the hour of danger. Hence, the spring of the year, in our climate, is regarded as the proper time for transplanting; for, generally, we have more or less wet weather during the months of April and May.

TRANSACTIONS OF THE AGRICULTURAL SOCIETIES OF MASSACHUSETTS, for 1847, have been received, an extended notice of which, will appear in our next.

OATS WANTED.—A day or two since an animal having the appearance of being a horse, but which looked like a skeleton, covered with a collapsed hide, was observed by a wag of a boy, who pasted a plaster upon its side, on which was daubed in large letters, "Wanted, a peck of oats. Inquire within."—*Exchange Paper.*

RECIPE FOR THE GALLOPING CONSUMPTION.—In Varlo's "New System of Husbandry," published in Philadelphia, in 1785, the following is stated to be an infallible remedy for the galloping consumption:—Take half a pound of raisins of the sun, stoned; a quarter of a pound of figs; a quarter of a pound of honey; half an ounce of Lucatellu's balsam; half an ounce of powder of steel; half an ounce of flour of elecampane; a grated nutmeg; one pound of double-refined sugar, pounded; shred and pound all these in a mortar; pour into it a pint of sallet oil by degrees, eat a bit of it, four times a day, the bigness of a nutmeg; every morning drink a glass of old Malaga sack, with the yolk of a new-laid egg, and as much flour of brimstone as will lie upon a six-pence; the next morning as much flour of elecampane, alternately; and if this will not cure you, the Lord have mercy upon you. [!]

REVIEW OF THE MARKET

PRICES CURRENT IN NEW YORK, APRIL 15, 1848.

ASHES, Pots,.....per 100 lbs.	\$5 50	to	\$5 62
Patria,.....do.	7 00	"	7 06
BALE ROPE,.....lb.	8	"	8
BARK, Quercitron,.....ton	30 00	"	31 00
BEANS, White,.....bush.	22	"	1 38
SEESWAX, Am. Yellow,.....lb.	75	"	25
BOLT ROPE,.....do.	11	"	12 1/2
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	12	"	14
Sperm,.....do.	25	"	35
Stearic,.....do.	20	"	25
CHEESE,.....do.	5 00	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 04
CORRAGE, American,.....lb.	11	"	13
COTTON,.....do.	5	"	9
COTTON BAGGING, Amer. hemp,.....yard	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	6 00	"	10
FLOUR, Northern, Southern and West'n bbl.	6 50	"	6 81
Fancy,.....do.	6 50	"	7 00
Richmond City Mills,.....do.	7 44	"	7 50
Buckwheat,.....do.		"	
Rye,.....do.	3 50	"	3 75
GRAIN—Wheat, Western,.....bush.	1 35	"	1 40
Southern,.....do.	1 12	"	1 25
Rye,.....do.	75	"	78
Corn, Northern,.....do.	52	"	54
Southern,.....do.	50	"	53
Barley,.....do.	85	"	90
Oats, Northern,.....do.	45	"	45
Southern,.....do.	2 50	"	3 00
GUANO,.....do.	2 50	"	3 00
HAY, in bales,.....100 lbs.		"	56
HEMP, Russia, clean,.....ton	225 00	"	235 00
American, water-rotted,.....do.	180 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7	"	9
HOPS,.....lb.	100	"	10 00
HORNS,.....do.	4 25	"	4 50
LEAD, pig,.....do.	6	"	7
Pipes for Pumps, &c.....lb.		"	
MEAL, Corn,.....bbl.	2 21	"	2 62
Corn,.....hhd.	13 00	"	13 19
MOLASSES, New Orleans,.....gal.	15	"	31
MUSTARD, American,.....lb.	16	"	16
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	81	"	1 00
Rosin,.....do.	75	"	85
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	25	"	38
OIL, Linseed, American,.....do.	59	"	60
Castor,.....do.	1 50	"	1 60
Lard,.....do.	70	"	76
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 00	"	1 62
Black eyed, 2 do.....do.		"	
PLASTER OF PARIS,.....ton	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	8 00	"	11 00
Prime,.....do.	5 25	"	7 50
Smoked,.....lb.	7	"	11
Rounds, in pickle,.....do.	5	"	7
Pork, Mess,.....bbl.	9 75	"	13 00
Prime,.....do.	6 50	"	9 00
Lard,.....do.	6 1/2	"	8
Bacon sides, Smoked,.....do.	6	"	7
In pickle,.....do.	5	"	13
Hams, Smoked,.....do.	8	"	10
Picked,.....do.	6	"	9
Shoulders, Smoked,.....do.	5	"	7
Picked,.....do.	5 00	"	4 00
RICE,.....100 lbs.	1 45	"	1 55
SALT,.....sack.	90	"	35
Common,.....bush.	6	"	8
SEEDS—Clover,.....lb.	3 00	"	4 00
Timothy,.....bush.	1 50	"	1 65
Flax, clean,.....do.	1 40	"	1 45
rough,.....do.	3	"	
SODA, Ash, contg 80 per cent. soda,.....lb.	1	"	
Sulphate Soda, ground,.....do.	3 1/2	"	6
SUGAR, New Orleans,.....ton	35 00	"	37 00
SUMAC, American,.....do.	9	"	10
TALLOW,.....lb.	3	"	9
TOBACCO,.....do.	22	"	24
WHISKEY, American,.....gal.	35	"	35
WOOL, Saxony,.....lb.	30	"	35
Merino,.....do.	20	"	25
Half blood,.....do.	18	"	20
Common do.....do.		"	

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef from 7 to 15 cents per lb.; Pork and Mutton, 8 to 12 cts.; Veal, 4 to 8 cts.; Hams 8 to 14 cts.; Bacon, 7 to 12 cts.

Poultry and Eggs.—Turkeys from 12 1/2 to 18 cts. per lb.; Ducks, 60 cents to \$1 per pair; Chickens, 50 to 75 cts. per pair; Figeons, 10 to 12 1/2 cts. each; Eggs, from 10 to 13 cts. per dozen.

Dairy Products.—Butter from 20 to 25 ct. per lb.; Cheese, 7 to 13 cents; Milk, 3 to 6 cts. per quart.

Fish, &c.—Shad from 13 to 25 cents each; Cod, 3 cts. per lb.; Halibut, 6 cts.; Lobsters, 5 cts. per lb.; Oysters, 50 to \$1 per 100; Clams, 10 to 13 cents per 100.

Ice, 25 cts. per 100 lbs.

Fruit and Nuts.—Swar Apple from \$2 to \$2.50 per barrel; Spitzenbergs (red), \$2.50; do (white), \$3.50 to \$4; Seek-no-further, \$2 to \$3; R. I. Greenings, \$2 to \$2.25; Newtown Pippins, \$3 to \$3; Roxbury Russets, \$2; Apples in small quantities, from 25 to 50 cents per half peck; Cranberries from \$3 to \$10 per bbl.; or 75 cents per half peck; Hickory Nuts, 43 per bushel; Peanuts, \$1.25 to \$1.38; Lemons and Oranges, 12 to 25 cts. per doz.; Pine Apples, 18 to 35 cts. each.

Vegetables.—Carter and Mercer Potatoes from 88 cts. to \$1 per bushel; Flesh-colored do, 60 cts.; Onions (red), 75 cents per bushel; do (yellow), \$1; do (silver-skinned), \$1.50; Parsnips and Turnips, 38 to 50 cts.; Green Peas (southern), from 75 cts. to \$1 per half peck; Tomatoes (Havana), \$1.50 per half peck; Cucumbers, from 25 to 30 cts. each; Squashes (West India), from 50 to 75 cts.; Cabbages, from 4 to 10 cts. per head; Spinach, \$1 per bbl; Salads, \$1 per dozen.

REMARKS.—Quercitron Bark, Cotton, Hay, Flour, Meal, Rye, and Corn, have undergone some depression since our last. Wheat remains the same, while Barley has risen. Lard, a slight decline. Provisions steady.

Money has become more plenty, though considerable paper is still discounted in Wall street at 1 to 1 1/2 per cent. per month.

The Weather is warm and showery, and vegetation from 12 to 15 days more forward than last year at this time. Our accounts of the damage to the wheat crop by winter kill are conflicting. From some quarters, our correspondents report, that the favorable spring weather has quite restored many a field which did not promise half a crop, while others say, their winter grain is not only past hope, and the spring sowing has come up poorly. It is too early, however, to form an opinion about this crop. Not so much corn will be planted this year as last, at the north and west; at the south the very low price of cotton will induce an increased planting. We trust more attention will be given to potatoes, for they have been enormously high all the past season, and of an inferior quality. We hope the farmers will make faithful experiments on this crop with lime, charcoal, and ashes, as Mr. Doolittle recommends on page 155, of this number.

TO CORRESPONDENTS.—Communications have been received from Wm. Bacon, J. McKinstry, E. S. R. L. Allen, A. C. Kasson, B. P. Johnson, M. W. Phillips, E. Townley, and Reviewer.

WATER RACE.—Several Correspondents.—See our advertisement, on page 168; also, an account of these machines at p. 235, of our fifth volume.

Rearing Poultry.—Jonathan Scribe, of Va.—Build a good poultry house provided with boxes of straw, and your hens will not be inclined to "steal their nests." If your cat and dog destroy your eggs, you have a remedy by cutting off their tails close to their ears. "Take it coolly. Better luck next time."

ACKNOWLEDGMENTS.—List of Premiums offered by the New York State Agricultural Society, to be awarded at their Fair and Show, to be held at Buffalo, in September next: List of Premiums offered by the Rhode Island Society for the Encouragement of Domestic Industry, to be awarded at their Exhibition at Pawtuxet, on the 4th and 5th of October next; List of Premiums offered by the Middlesex County (Ct.) Agricultural Society, to be awarded at their next show at Middletown, on the 4th to 7th of October next; Mr. Marsh's Address, delivered before the Agricultural Society of Rutland County, Vt. in September, 1847; Col. Johnson's Address before the Cayuga County (N. Y.) Agricultural Society, in September last; Agricultural Reports made by the Standing Committees of the R. I. Society for the Encouragement of Domestic Industry, for the years 1847-8; The Railroad Mania and Review of the Bank of the State of South Carolina; from Governor Hammond, of Silverton, N. C.

IMPROVED VARIETY OF RICE CORN FOR PLANTING.

FOR Sale, a few bushels of Improved Rice Corn, from Lake Winnepissogee, New Hampshire, very productive in its yield, and ripening early. Price 25 cents per quart.

A. B. ALLEN & CO., 191 Water st. N. Y.

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The Subscribers have just received from England and France a superior lot of Fresh Grass Seeds of various kinds. Among these are the Perennial and Italian Ray Grass, Sweet Vernal and Oat Grass, fine mixed Lawn Grass, White Clover, and Lucern. Also English Beans, Vetches, Ruta Baga Seed, &c. &c.

A. B. ALLEN & CO., 189 and 191 Water street
February 1st, 1848.

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Three Copies..... 3 "
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THE AMERICAN AGRICULTURIST is now in the seventh year of its publication. From its commencement it took a high stand; and has ever since been considered by the press and all unbiased judges, as the LEADING PERIODICAL of its class in America. It has a large and rapidly increasing circulation throughout the United States, the Canadas, and other British possessions, the West Indies, and South America; and we may fearlessly assert, that it has given more reliable information on rural subjects, and been perused with greater general satisfaction, than any paper of the kind yet published.

The Agriculturist treats of every description of domestic animals and poultry; their characteristics, breeds, the best and the worst; their advantages and disadvantages; their mode of breeding, feeding, and rearing; their uses, profits, and management. It treats of all cultivated crops, including fruits, shrubbery, and flowers; the best seeds, mode of planting, cultivating, gathering, and preparing for markets; the general principles of vegetation and the laws of vegetable life. It describes the principles of mechanics as applied to machinery used by farmers and planters; the best machinery and implements for agriculture, their uses and the particular superiority of some over others, and their adaptedness for particular purposes. It gives the latest improvements in those implements which may have been made, and suggests others; tells where they are to be found and the benefits that will follow from their use. It specifies new objects of cultivation, and how they may be better prepared for a profitable market and more general use.

This is the great design and scope of the *Agriculturist*; and these are the paramount objects of interests throughout America. No country can ever enjoy solid prosperity unless an enlightened system of agriculture is practised among its people, and this cannot be done except by the aid of those works which are written to teach it. Let all aid, then, to spread them broadcast throughout the land. It is the duty of every good citizen to do this—nothing equal to it can be done to benefit the country.

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BEING a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry and Farm Dogs; with directions for their management, breeding, crossing, rearing, feeding, and preparation for a profitable market. Also, their diseases and remedies; together with full directions for the management of the dairy, and the comparative economy and advantages of working animals, the horse, mule, oxen, &c. By R. L. Allen, author of "Compend of American Agriculture," &c.

The above work contains more than 40 engravings and portraits of improved animals, illustrative of the different breeds and various subjects treated in it.

The most minute as well as general principles for breeding, crossing, rearing, feeding, and management of all domestic animals, are herein given, to produce the utmost marketable value for the food and attention bestowed on them; as well as to prevent disease, and save the immense losses which annually occur from this source.

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LIFE INSURANCE, upon the plan adopted by this Company, is founded upon the principle of contribution in the shape of annual premiums to a common fund, proportioned to the amount insured, out of which the Company pay a stipulated sum on the death of the assured to the person for whose benefit the insurance is effected.

After a thorough investigation of the different systems adopted in Europe and America, and of the rates of premium charged, this company have reduced the premium 25 per cent. payable in cash, annually, semi-annually, or quarterly, as may be preferred, under a firm conviction that the exigencies of the Company will never exceed and seldom require one half of the annual premium now charged by the English and American Companies, which reduction will still leave a large margin for reasons of unusual sickness and death among its members—preferring to reduce the premiums at once to an amount more nearly approximating the actual necessities of the Company than to adopt the system of premium rates which is attended with many disadvantages.

The leading features of this Company are—

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5. No personal liability of the members beyond the amount of their annual premium of insurance.

6. Creditors may insure the lives of their debtors, or debtors themselves may insure for the protection of their creditors.

A prospectus has been issued (which can be had at the office of the Company, or any of its agents), explanatory of the terms and conditions of insurance.

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THIS Salt is as hard as alum, and is the best known. It comes in large lumps, and is the most suitable and economical kind for stock. It may be placed on the ground in the open field where it will be exposed for years to the weather with but little waste. It is the best kind to put in a rack, manger or trough, to be licked by horses, cattle, and sheep, as they may desire. By this means stock never get an excess, or suffer injury from its use. Price 81 per hundred pounds, for a single barrel, or 75 cents per hundred pounds for larger quantities.
Jan. A. B. ALLEN & CO., 169 and 191 Water street, N. Y.

AGRICULTURAL IMPLEMENTS AND SEEDS.

RUGGLES, NOURSE & MASON,

Inventors and Manufacturers of the Genuine
Eagle Plow,

WOULD inform the public, that their hitherto unequalled stock of Agricultural and Horticultural Tools, Machines and Seeds, at Quincy-Hall Agricultural Warehouse and Seed Store (over the Quincy Market), South Market street, Boston, Mass., is very much enlarged and improved in quantity and variety.

Within the past year they have done much to improve their Plow Department by constructing more patterns of Eagle, Eagle Self-Sharpening, Hill-Side, and Sub-Soil Plows, embracing additional sizes of improved forms and fixtures.

At the most full, perfect trial and investigation of plows ever had in this country, held in Essex Co., Mass., the Judging Committee, in speaking of the Improved Eagle Plow, to which they unanimously awarded the highest premium, say:—"As near as we can ascertain, this Plow combines all the good qualities manifested in all the others, with some peculiar to itself; and further, our attention was called to the quality of the castings on the Plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of Chilling the Point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character, and we think there is no hazard in saying that the value of the parts thus made is more than doubled by the process."

The following is a copy of their table showing the comparative amount of power in pounds, required to operate the different plows:—

Medium-Sized Plows.

Winslow's,	of Danvers,	493 lbs.
Ruggles & Co's.,	of Worcester,	412 "
Prouty & Co's.,	of Boston,	435 "
Howard's,	of Hingham,	413 "

Large-Sized Plows.

Winslow's	of Danvers,	513 lbs.
Ruggles & Co's.,	Eagle, of Worcester,	425 "
Prouty & Co's.,	Sod A. of Boston,	487 "
Howard's,	of Hingham,	450 "

In 1846 the first premiums were awarded to competitors who used Plows made by Ruggles, Nourse, and Mason, at Plowing Matches in the following named counties, to wit: Essex, Middlesex, Worcester, Hampshire, and Berkshire, in Mass.; Orleans and Windham, Vt.; Kennebec, Me.; Litchfield and Hartford, Conn.; Prince George's and Montgomery counties, Md.

At the Cattle Shows held in 1847, the following Premiums were won by plowmen with Plows manufactured by Ruggles, Nourse & Mason:—

ESSEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
"	"	2d Premium,	" Eagle No. 2.
"	"	3d Premium,	" Eagle No. 2.
Double-Team,	1st Premium,	"	Eagle No. 25.
"	"	2d Premium,	" Eagle Sward B.
"	"	3d Premium,	" Eagle No. 25.
Horse-Team,	1st Premium,	"	Eagle No. 2.
"	"	2d Premium,	" Eagle No. 2.
"	"	3d Premium,	" Eagle No. 2.
Sub-Soiling,	1st Premium,	"	Eagle S. S. No. 1.

MIDDLESEX COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
Double-Team,	1st Premium,	do	Eagle No. 20.
do do	2d Premium,	do	Eagle No. 20.
do do	4th Premium,	do	Eagle No. 25.
Horse-Team,	1st Premium,	do	Eagle No. 2.

BRISTOL COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Sward C.
do do	2d Premium,	do	Eagle No. 2.
do do	4th Premium,	do	Eagle No. 2.
Double-Team,	1st Premium,	do	Eagle No. 20.

BARNSTABLE COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
Double-Team,	1st Premium,	do	Eagle No. 2.
do do	2d Premium,	do	Eagle No. 2.
Horse-Team,	1st Premium,	do	Self-Shar'g No. 2.

HAMPDEN COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
do do	2d Premium,	do	Eagle No. 1.
do do	6th Premium,	do	Eagle No. 2.

BERKSHIRE COUNTY, MASS.

1st Premium, and 7 others, Plows, Eagle Nos. 1. and 2.
1st Premium for the best Plow.

HAMPSHIRE COUNTY, MASS.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
only, used.	7th Premium,	do	Eagle No. 2.
	8th Premium,	do	Eagle No. 2.

MERRIMACK COUNTY, N. H.

Single-Team,	1st Premium,	Plow,	Eagle No. 2.
only, used.	2d Premium,	do	Eagle No. 20.
	3d Premium,	do	Eagle No. 2.

WASHINGTON COUNTY, VT.

1st Premium, Plow, Eagle No. 2.

HARTFORD COUNTY, CONN.

1st Premium,	Plow,	Eagle No. 25.
2d Premium,	do	Eagle No. 2.
3d Premium,	do	Sward D.

ROCHESTER, MONROE CO., N. Y.

Horse-Team,	1st Premium,	Plow,	Sward C.
only, used.	2d Premium,	do	Eagle No. 25.

MONTGOMERY COUNTY, MD.

1st Premium for Three-Horse size,	Eagle No. 25.
1st Premium One do do	Self-Shp'ner No. 1.

They have also constructed a series of new patterns of Plows of various sizes and forms (some with wrought mould plows, shares, or points) expressly calculated for the different kinds and methods of cultivation practiced in the Southern States and which embrace all the alterations which a long and thorough investigation, and more extended acquaintance with southern culture has suggested, to render peculiarly adapted to the planters.

As all of the most important articles in their assortment are manufactured by themselves, and especially for their own trade at their extensive manufactory at WOODSTOCK, under their own personal supervision, and being importers direct, of all necessary foreign articles in the line, they are enabled to offer an unusual variety of implements of admitted superiority, and on the most advantageous terms.

Their stock of seeds is raised specially for their trade by reliable, and experienced American and European growers, and are warranted fresh and true to their names.

Their prices being uniform, purchasers can rely on having all orders executed on as favorable terms, and promptly, as though they were personally present.

Dealers supplied on the most advantageous and inducing terms.

A. B. Allen & Co., N. York City; H. L. Emery, Albany N. Y.; and R. L. Allen, N. Orleans, agents. Other houses and dealers at most of the principal cities and towns through the country keep our plows and other implements from this establishment.

As it is impracticable here, to give a detailed list of articles embraced in so great a variety, the proprietors propose to forward (gratis) to persons requesting them, by mail, or otherwise, descriptive catalogues of implements and seeds, of nearly 100 pages, embellished with cuts of tools, and containing brief directions for sowing, planting, and culture, with rules for the application of guano, plaster, and bone dust; and remarks on soils and plowing, with general observations, list of Agricultural and Horticultural Publications, &c., &c. mh3

Feb. 10th, 1848.

FINE WATCHES AND CLOCKS.

THE subscribers take this method to inform their friends and the public, that they have received, by late arrivals from Europe, a large invoice of FINE WATCHES, consisting of CHRONOMETERS, DUPLEX, LEVER, and HORIZONTAL ESCAPEMENTS, together with a few WATCHES of an entirely DIFFERENT CONSTRUCTION from any that have ever been offered for sale in this country.

In recommending the above-named WATCHES to the public, the subscribers hazard nothing in saying that, without any exception, they are the finest and most perfect pieces of mechanism ever manufactured. The performance of those they have already sold in this city has equalled their most sanguine expectations.

In connection with the above, they have a large assortment of WATCHES OF EVERY VARIETY, STYLE, AND PRICE, together with an extensive assortment of JEWELRY, SILVER WARE, COUNTING-HOUSE CLOCKS, &c. For sale at prices which cannot fail to prove acceptable to the purchaser.

SAMUEL HAMMOND & CO.

Importers and Repairers of Watches,
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mh4

AYRSHIRE CATTLE.

THREE Cows, one bull calf, and one yearling bull of the celebrated Ayrshire cattle for sale. The cows were selected from the best herds in Scotland and imported by their present owner at a heavy cost. The bulls are out of the above cows by an imported bull. They may be seen on the owner's farm in Connecticut. For further particulars apply to A. B. ALLEN, & CO., N. Y.

HORN SHAVINGS.

HORN SHAVINGS for sale at two cents per lb. They are considered more fertilizing than bone dust.

A. B. ALLEN & CO., 191 Water street, N. Y.

AGRICULTURAL IMPLEMENTS FOR SALE.

SEED SOWERS of different kinds, operated by hand, and arranged for sowing all sorts of garden and field seeds in drills. They sow with equal accuracy, and with much greater rapidity than by hand. Prices, \$4.50 to \$15.

Backsides' Corn Planter, operated by a single horse. This machine can be regulated to drop the corn in hills from one foot to four feet apart. Price \$18.

One-Horse Cultivators of various kinds. Price, \$5 to \$8. **Hand Cultivators** for garden work. These also do well for field work, and effect quite a saving of labor. Price \$3.

Cast-Iron Rollers, in sections one foot long, 18 inches in diameter, weighing 83 lbs. per section; sections of the same length, two feet in diameter, weighing 160 lbs. per section. These can be strung on an iron shaft, two inches in diameter, upon which they turn. They are fitted up for hand or horse power, and may be made from one to eight feet or more in length. The superiority of a roller, made of several sections is very great. Prices, 4 to 6 cents per lb. Fittings extra.

Square and Triangular Harrows of various improved kinds. Prices, \$5 to \$15.

Plows and other agricultural implements, a large and complete assortment.

A Descriptive Catalogue of the above, of 100 pages with numerous illustrations, will be sent gratis to all who apply for it, post paid.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y.

IMPROVED STOCK FOR SALE.

THE Subscriber will take orders and execute them in the best possible manner, for

Durham, Hereford, Devon, and Ayrshire Cattle. Prices from \$50 to \$300 each, according to age and quality.

Saxon, Merino, Southdown, Leicester, and Cotswold Sheep. Prices from \$10 to \$100 each.

China, Sussex, Berkshire, and Lincoln Pigs. The latter are of recent importation, color white, and very large. Price per pair, at 3 months old, caged and delivered on ship board, for the first three-mentioned breeds, \$20; for the Lincoln, \$30.

All orders must be accompanied with the cash.

SAMUEL ALLEN, 189 Water street, N. Y.

FANNING MILLS.

AGRICULTURAL Merchants and Farmers are respectfully informed that the subscriber keeps constantly on hand a supply of five different sizes of his celebrated Fanning Mills, which he offers for sale on the most accommodating terms. These Mills are made of the best materials, and finished in good style, and warranted to clean grain as well as and as fast as any others now in use.

TUNIS E. HENDRICKSON,

Jamaica, Long Island.

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Agents.

myd*

LEAD PIPES FOR HYDRANTS, PUMPS, &c.

OF $\frac{1}{2}$ inch calibre, weighing from 1 lb. 8 oz. to 3 lbs. 8 oz. per yd.

" $\frac{1}{2}$ do	do	1 " 14	do	6 do 6	do
" $\frac{3}{4}$ do	do	2 " 8	do	8 do 4	do
" 1 do	do	3 " 8	do	10 do 8	do
" 1 $\frac{1}{2}$ do	do	5 " 10	do	14 do	do
" 2 do	do	6 " 12	do	17 do 8	do
" 2 $\frac{1}{2}$ do	do	11 "	do	19 do	do
" 3 do	do	16 " 12	do	27 do	do
" 3 $\frac{1}{2}$ do	do	23 " 8	do	50 do	do
" 4 do	do	28 "	do	59 do	do
" 4 $\frac{1}{2}$ do	do	45 "	do	90 do	do
" 5 do	do	49 "	do	90 do	do
" 4 do	do	Water Pipe	15 do 14	do	
" 4 $\frac{1}{2}$ do	do	"	17 do 4	do	
" 5 do	do	"	34 do	do	

Price of the above pipes 6 to 7 cents per lb.

A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

WATER RAMS.

FOR SALE. Superior Water Rams, which, if applied to a large or small stream of water where there is one or more feet fall, a portion of said stream may be forced up, by its own power, to a height of 50 or 100 feet. The quantity of water raised will vary according to the height of the fall, the size of the stream, and the capacity of the ram. For instance, any one possessing a spring, or stream of water, that will discharge 8 or 10 gallons per minute, and can stop up the stream by a dam, so as to make a fall of 8 or 10 feet, by means of one of these machines, a constant stream, from a half-inch pipe, can be delivered at an elevation of 85 feet. Prices from \$12 to \$16—pipe extra. For prices of lead pipe, see advertisement above.

Take Particular Notice.—Persons making application for these rams, by mail, or otherwise, are requested to name the size of the stream, or quantity of water running in it per minute, the amount of the fall they are able to produce, the height the water is desired to be raised, and the distance it is wished to be conveyed.

my

A. B. ALLEN & CO., 191 Water street, N. Y.

PURE BLOOD MERINO SHEEP FOR SALE.

THE subscriber, being about to retire from the farming business, offers for sale his entire stock of Merino sheep which have been bred with the greatest care from the best flocks in the country.

Of these, 75 are ewes, now with lamb by a buck selected from the recent imported flock of John A. Taintor, Esq., of Hartford, Conn.—25 bucks, one year old last spring, from the above ewes, sired by the Rambouillet buck Chancellor, and 50 lambs, the increase of last year, sired by the celebrated Rambouillet buck Grandee, now owned by the Rev. L. C. Bingham, of this place. As to purity of blood, fineness and weight of fleece, and strength of constitution, they are excelled by no Merinos in the country. The buck purchased from the recent importation of Mr. Taintor will also be offered for sale. To those wishing to improve their sheep, or those wishing to start a new flock, the present offers a rare opportunity, as they will be sold without reserve. Communications addressed to the subscriber will receive immediate attention.

THOS. H. CANFIELD.

mjt

Williston, Vt., Jan. 17th, 1848.

SHORT-HORN STOCK FOR SALE.

THE Subscriber has a few Young Thorough bred Durhams on his farm, two and a half miles from this city, which he offers for sale, viz.: 1 Two-year old Bull; 1 Yearling Bull; 2 do about 8 months old; 6 Yearling Heifers; 2 Two-year-old Heifers; and a few Spring Calves (bulls and heifers). These young animals were all got by his imported Bates bull, Duke of Wellington, and his premium bull, Meteor; also, a Bates bull, got by the bull Duke of Wellington, out of Duchess.

The dams of some of these young animals are from imported cows (other than from the Bates breed), and from Durham cows bred in this country, and good milkers. The sires being from the celebrated herd of Thomas Bates, Esq., renders them valuable as a cross on other Durhams, as well as to farmers who wish improved stock. The estimation put upon this strain of blood by those who are acquainted with it, can be appreciated, by stating that the only bull calves, which I have had to dispose of, from Bates bulls and cows (three in number), have been sold at \$300 each.

These animals will be sold at prices ranging from \$100 to \$150.

GEO. VAIL.

myit

Troy, N. Y., May 1st, 1848.

FIELD AND GARDEN SEEDS.

POLE and Dwarf Beans, Beet and Mangold Wurtzel, Cab bage, Carrot, Cucumber, Melon, Onion, Peas, Pumpkin, Radish, Ruta Baga, Squash, Tomato, Turnip, and a great variety of other seeds of the best kinds for sale at the New York Agricultural Warehouse and Seed Store, 189 and 191 Water street, New York.

A. B. ALLEN & CO.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, JUNE, 1848.

NO. VI.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

PRECAUTIONS AGAINST THE TURNIP AND CABBAGE FLY.

At a period when a great deficiency of potatoes prevails, a partial substitute for that valuable root may be formed by the finer kinds of the turnip and the cabbage for human food, and of the coarser kinds for that of animals; but one of the greatest drawbacks in the cultivation of these vegetables, in times past, in this country, particularly that of the turnip, has been the losses sustained by the ravages of the fly. This difficulty, doubtless might be obviated by artificial means, among which, we would recommend for experiment the following:—

1. It appears from a trial made at the suggestion of Sir Humphrey Davy, that lime slaked with urine, and mixed with three times the quantity of soot, by measure, and sprinkled in with the seed, at the time of sowing, protected them and the germs from the ravages of insects; but this antidote cannot be conveniently applied unless the seed is sown in drills.

2. A simpler remedy than the above, which has proved perfectly successful, is to steep the seeds, 24 hours, in tepid (blood-warm), sulphur water, mixed in the proportion of one ounce of sulphur to a pint of water. This quantity is sufficient to soak 3 lbs. of seed.

3. Mixing equal parts of old seed with new, dividing one half and steeping it in tepid water 24 hours, and then mixing it again with the dry seed, has often been tried with good effect. By this means, four different times of vegetation are brought about, and consequently as many chances of escaping the ravages of the fly.

Radish seed has also frequently been mixed with that of the turnip, and as the fly prefers the former, the latter remains untouched.

4. Dusting the plants, when in the seed leaf, with finely-powdered quicklime, has likewise been

tried with good effect. A bushel of quicklime is sufficient to dust an acre of turnips, sown in drills, the young seed leaves being powdered in the least degree is sufficient; but, should the lime be washed off by rain, before the plants acquire their secondary leaves, it may be necessary to repeat the dusting, should the fly again appear.

5. In the heat of summer, it is of great importance to sow just before, or in the time of rain; for the fermentation, caused by heat and copious showers, gives an extraordinary quickness of vegetation to the seed, which, in a few days, will be in the rough, or secondary leaf, and out of all danger from the fly.

This insect is always weakened, or killed, by drenching showers, and never does injury to the crop, if it is attended with early and copious rains.

NOTES ON LONG ISLAND.—No. 3.

Centre Island.—This is a fine tract of 650 acres. It lies in the middle of Oyster Bay, and hence its name of Centre Island. It was originally purchased of the Indians, by a Mr. Ludlum, two of whose descendants still own 400 acres between them. The residue, 250 acres, belongs to Mr. Jacob Smith.

We had a delightful sail in an open boat across the bay, to this charming island, but landing rather late in the afternoon, we had time only to call on Mr. Smith, much regretting we could not also see the Messrs. L. Mr. S. is an excellent and very enterprising farmer, and has greatly increased the productiveness of his share of the island, since he became its possessor. He catches any quantity of the bony fish in the bay, and is liberal in his application of them to the land. He usually puts on 2,000 to 2,500 per acre. He applies them in various ways. Sometimes he spreads them broadcast, on pasture lands, in the month of June, which

he plows up for corn the following spring; but more generally, they are applied round the corn, the second time hoeing; or they are made into a compost, which is certainly the least offensive and most economical method. The rotation here, is corn, barley, or oats, then wheat, followed by grass from five to seven years. Mr. S. gets large crops; corn, 50 bushels per acre, on an average; wheat, 25 bushels; hay, 2 tons. While on his farm, we saw many acres of grass just ready to cut, which we are confident would turn out 2 to 3½ tons per acre. It stood nearly breast high and seemingly as thick as it was possible to grow.

A very fine, sweet, juicy, red-streak apple originated on this island. We think it a valuable variety, and our nurserymen would do well to cultivate it. It is particularly well relished by swine, and fattens them very rapidly. It is sometimes called the "Hog Sweeting," but this is really too vulgar a name; we, therefore, recommend that of the "Syosset," the Indian name for Oyster Bay, or call it the Ludlum Sweeting, or Ludlum Red-streak.

Wm. S. McCoun, Esq., has recently left the practice of law, in this city, and settled as a farmer, on Oyster Bay. He has built him a charming Gothic cottage, in a quiet little valley, and surrounded it with pretty grounds, an ample garden, and commodious out-buildings. He follows the usual rotation, but pays more attention to corn, of which he has raised some excellent crops. He is gradually getting his farm into a high state of cultivation, and is an excellent example to his neighbors—spirited, at the same time very judicious in his outlays and improvements. We are under many obligations to him for his kind attention, while on the island.

A short distance from him, is the country residence of Judge McCoun. It is a fine old place, and commands a beautiful prospect of the bay and surrounding country.

Cultivation of Grapes.—Judge Concklin, of Cold Spring, has planted about three acres with the Isabella and Catawba grape. The ground is terraced, and the vines trained on horizontal bars, fastened to upright posts. His vineyard usually bears well, and he is now extending it. The Judge not being at home, we lost the opportunity of obtaining more particular information regarding his success in growing this delicious fruit.

At Cold Spring Harbor, we called on Mr. David W. Jones. He has a good farm, beautifully situated, and commanding a fine water prospect. He paid great attention to stock, formerly, and still has some fine animals left. His Durham cow, Sylph, is a choice animal and an excellent milker. He possesses several others, also, and a few blood horses. We regret to say, that we had not time to linger longer and obtain more particulars of Mr. J.'s farming operations.

Mr. John H. Jones, has a splendid farm of 500 acres, farther up the harbor. This is under a high state of cultivation. Hay, corn, and wheat are his principal products. Aside from farming, Mr. Jones is extensively engaged in merchandise, the manufacture of woollen cloths, ship building, whaling, &c., all which multifarious operations, he superintends personally. He is one of the most active

men on the island; and we are happy to add, has been highly successful in nearly everything in which he has been engaged.

PHILOSOPHY OF THE ROTATION OF CROPS.

On this subject, there are two theories:—1. That, while the continuous cultivation of any one crop on the same land deprives the soil of the specific nourishment essential to its growth and perfection, another plant, requiring food of a different character, may be substituted therefor. 2. Of the nutriment which vegetables imbibe and digest; they exude an inconsumable, or innutritive portion of their roots. This excrementitious matter, in many plants, is supposed to poison or render the soil unfit for a second crop of the same kind, until it is either consumed, or neutralized, by cultivation. Hence, the reason why it is often so difficult to obtain a good yield of the same kind of crop on land for three or more consecutive years.

In corroboration of the latter theory, it is stated that the turnip and some other root crops, from the great development of their broad, gas-collecting leaves, are comparatively independent of the soil for their nourishment; and that they possess the property of adding to, rather than taking from, the quantity of vegetable matter in the soil, even when entirely removed; for land has been found after several years' cropping with turnips, all the produce having been carried off, absolutely richer in organic matter than at first, the plant having returned to the soil more than it had taken from it. On the contrary, however, the onion and the muskmelon, have been known to be cultivated annually, on the same ground for many years in succession, apparently without any signs of deterioration.

APPLE ORCHARDS.—NO. 9.

APPLES often fall off prematurely from being eaten by the larvæ of a beautiful little insect, called the apple-worm moth (*Carpocapsa pomonella*). The habits and economy of this mischievous little pest have been satisfactorily pointed out by a writer in the London "Entomological Magazine," and a good account of it is also given by Dr. Harris, in his "Report on the Insects of Massachusetts Injurious to Vegetation," p. 353. The larvæ of this insect leave their chrysalides from the middle of June to the first of July, or at the time the young apples become well set. The moth now lays her eggs in the eye of the apple, one only in each, by introducing its long ovipositor between the leaves of the calyx, which form a tent above it, that effectually shields it from the inclemency of the weather, or other casualties.

"As soon as the egg hatches," says the writer above referred to, "the little grub gnaws a hole in the crown of the apple, and soon buries itself in its substance; and it is worthy of remark that the rind of the apple, as if to afford every facility to the destroyer, is thinner here than in any other part, and, consequently, more easily pierced. . . . The grub, controlled by an unvarying instinct, eats into the apple obliquely downwards, and, by thus avoiding the core and pips, in no way hinders its growth. At first, it makes but slow progress, being little bigger than a thread; but,

after a fortnight, its size and its operations have much increased. It has now eaten half way down the apple; and the position of the hole at the top, if the apple continue upright, or nearly so, is convenient for a purpose it has up to this time been used for; that is, as a pass to get rid of its little pellets of excrement, which are something like fine sawdust, or coarse sand. Another communication with the outer air is therefore required; and it must be so constructed as to allow the power of gravity to assist in keeping it clear. It is accordingly made directly downwards, towards that part of the apple which is lowest; and thus the trouble of thrusting the pellets upwards through the eye of the apple is saved, and a constant admission given to a supply of air, without any labor. The hole now made, is not, however, sufficiently open for an observer to gain by its means any knowledge of what is going on within; this is only to be obtained by cutting open a number of the apples, as they gradually advance towards ripeness; the hole is, however, very easily seen, from its always having adhering to it, on the outside, an accumulation of the little grains which have been thrust through. Having completed this work, the grub returns towards the centre of the apple, where he feeds at his ease. When within a few days of being full fed, he, for the first time, enters the core, through a round hole gnawed in the hard horny substance, which always separates the pips from the pulp of the fruit; and the destroyer now finds himself in that spacious chamber, which codlings, in particular, always have in their centre. From this time, he eats only the pips, never again tasting the more common pulp, which hitherto had satisfied his unsophisticated palate; now nothing less than the highly-flavored, aromatic kernels will suit his tooth; and on these, for a few days, he feasts in luxury. Somehow or other, the pips of an apple are connected with its growth, as the heart of an animal with its life. Injure the heart, an animal dies—injure the pips, an apple falls. Whether the fall of his house gives the tenant warning to quit, I cannot, say, but quit he does, and that almost immediately. He leaves the core, crawls along his breathing and clearing-out gallery, the mouth of which, before nearly closed, he gnaws into a smooth, round hole, which will permit him free passage, without hurting his fat, soft, round body; then out he comes, and, for the first time in his life finds himself in the open air. He now wanders about on the ground till he finds the stem of a tree; up this he climbs, and hides himself in some nice little crack in the bark. I should remark that the fall of the apple, the exit of the grub, and his wandering to this place of security, usually take place in the night time. In this situation he remains without stirring for a day or two, as if to rest himself after the uncommon fatigue of a two yards' march; he then gnaws away the bark a little, in order to get further in, out of the way of observation; and having made a smooth chamber, big enough for his wants, he spins a beautiful little milk-white, silken case, in which, after a few weeks, he becomes a chrysalis, and in this state remains throughout the winter, and until the following June, unless some unlucky, black-headed tit, running up the trunk, peeping into every cranny,

and whistling out his merry see-saw, happens to spy him; in which case, he is plucked, without ceremony, from his retreat, and his last moments are spent in the bird's crop. But, supposing no such ill-fortune betide him, by the middle of June he is again on the wing, and hovering round the young apples on a midsummer evening as before. By burning weeds in your garden, at this time of the year, you will effectually drive away this little moth. If you have trees, the crops of which you value, make a smoking fire under each. It will put you to some inconvenience if your garden be near your house; but the apples will repay you for that."

As the apple worm instinctively leaves the fruit soon after it falls from the trees, it has been recommended to gather up all wind-fallen fruit daily, and give it to cattle or swine, in order to kill these insects, before they have time to escape. Mr. Joseph Burrelle, of Quincy, Massachusetts, in vol. xviii. of the "New England Farmer," says that, "if any old cloth is wound around, or hung in the crotches of the trees, the apple worms will conceal themselves therein; and by this means, thousands of them may be obtained and destroyed, from the time when they first begin to leave the apples, until the fruit is gathered."

PROTECTION OF BUILDINGS FROM LIGHTNING.

"If there be one time more than another," says a late writer on electricity, "in which man feels that he is entirely in the hands of One mightier than himself, in which all his personal pride sinks in the conviction of his utter helplessness, it is when the forked bolts of heaven glare about him with frightful brightness, and the dread artillery of the skies stuns him with its deafening peals, and shakes the very earth on which he treads. Then, I say, it is that his conscience tells him how entirely dependent he is; and how, in a moment, the next flash might be to him the instrument of death, without his having the slightest power to avert his fate. In respect to the other great and irresistible powers of nature, man, in some sort, seeks them out—the lightning's flash seeks out him. It is true he may go to shores where thunder storms are less violent, or to others where they are much more violent than in his own land; but regarding it generally, lightning is no respecter of time nor place; it was as much known to the ancients as to ourselves; it comes to us, so to speak, 'in season and out of season'—its geographical distribution is less restricted than that of any other of nature's great phenomena—tempests, perhaps, excepted."

With this startling admonition before him, let any one of the readers of these observations pause for a moment and count the number of lightning rods in his own neighborhood. Does he hesitate? He thinks there may be one on the village spire, and perhaps another on yon tall chimney; but where else, he knows not. Now he is led to ask What is the cause of this apparent neglect? Why this consummate audacity in trifling with the eternal laws of nature by erecting monuments and inviting down the fire of heaven, and providing no means of conducting it safely away? The leading reasons for this, are, first, the comparatively

few accidents by lightning; second, the very recent adoption of lightning protectors; third, the want of confidence in the efficacy of the latter; and fourth, their cost.

Although the extreme magnitude of accidents by lightning cannot be otherwise than recognized by all, and the almost certainty of some one or more buildings being the marked victims at every season; yet each man builds with the chance of his edifice not being the fatal one. Amongst so many, the chances are so much in his favor, that he will run the risk; or else he comes to the still more unphilosophical conclusion, that, as storm after storm has left him unscathed, so will he for ever be safe.

With regard to the very recent discovery of means of averting the effects of lightning, it will be remembered that it was not until the month of June, 1752, that mankind knew what lightning really was. Then it was that Dr. Franklin first drew down lightning from the clouds, by means of a kite, and proved its entire identity with electricity, which discovery led him to the construction of lightning conductors. But before treating of these, perhaps it may be interesting to give some of the precautions adopted by the ancients, in order to protect themselves against this "ethereal fire." According to Heroditus, the Thracians, in times of lightning, were in the habit of shooting arrows against the sky, to repel it from the earth. Augustus used to retire into a cave during thunder storms, on the strength of an opinion then prevalent, that lightning never penetrated into the ground more than five feet deep. The emperors of Japan, it is said, possessed a refinement on this mode, by building reservoirs above the caves, into which they retired, and kept them constantly filled with water, in order, as they thought, to put out the fire of the lightning. Augustus, who appears to have been terribly alarmed at this element, used, also, to wear a seal-skin cloak during storms, on account of its assumed protecting efficacy. The Romans used to build seal-skin tents into which the timid retired; and the shepherds of Cevennes, even at the present day, wear hat bands of serpent skins for the same purpose. Tiberius wore a chaplet of laurel, whenever he dreaded danger from a storm, with a belief that lightning never touched the foliage of the laurel. And it is a notorious fact, that the American Indians, whenever the sky wears the appearance of a thunder storm, quit their pursuits and take refuge under the nearest beech, with the full assurance that the electric bolts never scathe that tree.

If the ancients were thus industrious to use what, in their ignorance, they thought to be the means of safety against an agent, the nature of which they knew little or nothing, and the action of which they knew still less, how much more does it seem to be the duty of the present generations, who both understand this agent and the means of averting its effects, to avail themselves of the advantages of their knowledge, and employ the remedies they have at their command. Not a year passes without numerous cases of buildings being struck by lightning, for want of proper protection, particularly barns, which, in consequence of the humid gases ascending from the newly-gathered crops, are peculiarly liable to this injury. The necessity and

value of lightning rods are obvious and need no further comment.

As scientific knowledge has now obtained its proper rank in our schools, but few of our readers can be ignorant of the fact, that all matter is divided into two general classes, *conductors* and *non-conductors* of electricity. These names, however, are only comparative; for the two classes gradually merge into each other, leaving the distinctive term merely an expression of degree. For instance, copper ranks very high in the scale of conductors; and air occupies a very low rank among insulators; yet, an electric shock will sooner pass through a short interval of air than along a long copper wire. This fact is dependent on a law, the due observance of which, can alone ensure the efficacy of any protecting apparatus. Another modification in a conducting body of a comparatively high rank, is its *capacity*, which exercises an important influence over its conducting power. Thus an electric charge, which will pass safely and quietly along an ordinary copper wire, will deflagrate and burn up, entirely, an extremely fine wire of the same kind of metal.

The most important things to be considered in the choice of lightning rods, are, that they should consist of good conducting materials; good capacity; and should have a good connexion with moisture in the earth. In addition to these, the area of their protecting influence should be regarded; the number of rods required for each building; their position in special cases; and the modes of arranging them.

With regard to the *conducting materials* employed in their construction, metal is undoubtedly the best, and the choice would seem to lie between copper and iron. M. Pouillet makes the conducting power of copper from $5\frac{1}{2}$ to $6\frac{1}{2}$ times that of iron; Dr. Priestly makes it 5 times as much; and Professor Faraday $6\frac{1}{2}$ times as much; so that, after having determined the sectional area of an efficient copper rod, an iron one of about 6 times that area, will possess the same conducting power. Iron, however, will not make durable and efficient conductors, unless they are entirely coated with silver, gold, copper, or tin, in consequence of their liability to rust, or oxidate, by the action of the weather.

As to the *capacity* to be given to a rod, it has been decided by common consent, that, the *sectional area* of one composed of copper, should vary from a circle one half of an inch to three fourths of an inch in diameter, the larger area being for very tall conductors, and the smaller, for shorter ones. And now, in respect to the *form of the rods*, it is quite immaterial whether they be square, round, or flat; but let it be remembered, that, in all cases, each conductor should be as entire and as straight as possible, presenting a *single point* to the clouds, with the apex tipped with palladium, or gold.

Of all considerations, the most important is a good *connexion with the earth*, which is so very essential, that without this, all other precautions will be in vain. It is not enough that the conductor enter the earth; for it must penetrate it to some depth, in fact, till it reaches the subsoil, where it is well impregnated with water. In order to reduce the destructive action of this moisture (the oxydation of the metal), and at the same time to give the buried

portion of the conductor every facility for dissipating its charge, it is better that the rod should terminate by several branches in a sunken bed of well-burnt charcoal, wood ashes, or spent tan bark.

Another important point to be considered, is the *situation and position* in which the rods are to be placed after they are put up. In all cases, they should be elevated above every other point of attraction, at least, *four times the diameter of the area* to be protected; say, in a common-sized house from 10 to 15 feet above the top of the highest chimney, or other object extending above the roof. And as before intimated, the integrity and upright position of the rods should be maintained, as far as practicable, avoiding, also, all abrupt angles and short turns. If a house, barn, church, factory, &c., be located in the immediate neighborhood of each other, and only one of them be protected, the danger of all the others will, thereby be increased. The remedy, in such a case, is so obvious, that nothing is necessary to be added on that score.

The question now presents itself, How are the rods to be affixed to the building, by *conducting*, or by *insulating staples*. Our unequivocal reply would be, by conducting staples—not those covered with copal varnish, or insulated by necks of glass bottles, as has often been recommended by writers on this subject; for, let it be remembered, that the flash, which may have forced its way through many yards of air, would find no difficulty in passing so slight obstacles as these, if such a direction formed a part of the lightning's path previously prepared, or "felt out." It is a well-established truth, that, if a conductor pass near a mass of metal in tolerable connexion with the earth, the flash will sometimes divide itself between the two channels, one portion of it continuing its course down the rod, and the other portion leaving it to pursue the side path. Therefore, in order to alleviate this "lateral discharge," or deviation from the main channel, all suspected vicinal electrified bodies should be united to the conductor itself, by means of metallic wires or bands. Then, if the building is predisposed, by the antecedent inductive action, to share with the rod, in conveying away the fluid, let it be done in good sooth, without an explosion, without a *fracas*, as the French emphatically call it.

Conductors should neither be painted nor varnished, as that would diminish their conducting power. If made of iron, they should be coated with metal, as before suggested, and may be erected at either, or both sides, or ends of a building, at a distance of about four inches from the walls, supported by iron staples or wooden supports.

Thus we have endeavored to point out the necessity and value of lightning rods, and faithfully describe their chief characteristics, without entering much into theoretical speculations or trivial detail.

PRESERVATION OF CUCUMBERS.—In Germany and Poland, it is said barrels of cucumbers, of various sizes, and ages, headed up water tight, are preserved fresh, from one year to another, by immersing them in deep wells, where the uniform temperature and exclusion of the air seem to be the preserving agents.

BUTTER MAKING.

THAT portion of milk, of which butter is made, it is conceded by chemists, consists of minute globules of semi-fluid fat, about one ten thousandth part of an inch in diameter, each covered with a thin pellicle, or shell, of a peculiar substance, resembling curd, but slightly differing from it in composition. When set aside and left undisturbed, where the temperature of the air is about 50°F., these globules of fat, with their coatings, generally rise to the surface of the milk, within 24 hours, forming a thick, soft, white or yellowish crust, commonly known by the name of *cream*. This crust consists of two layers, the uppermost of which contains a larger proportion of butter than the under one.

After this cream has been kept in the dairy, four or five days, at a constant temperature of from 46° to 50°, and then violently agitated for a time, in a churn, or otherwise, at a certain temperature, the thin coatings burst, or are torn asunder, and the particles of half-fluid fat unite and form *butter*. The latter substance includes some of the thin envelopes of the fatty globules, with a little curd, sugar of milk, and a considerable proportion of water.

There are several facts known to the dairy maid, in the preparation of her butter, which are not without interest, both in a chemical, and in an economical, point of view. One is, butter obtained on the same farm, and by the same process, or method of churning, is frequently observed to be harder at one season of the year than at another; and even the same milk, under different management, yields butter of different degrees of hardness, at all seasons of the year. This has been satisfactorily and chemically explained, in stating, that the same milk, or cream, by the absorption of oxygen in greater or less abundance, produces a butter proportionably hard or soft. Yet, it must be conceded, that the presence of the air and oxygen, or their renewal, are not necessary to the operation of churning. For this can be as completely effected by prolonged agitation in a close vessel—by corking up the cream, for instance, in a glass bottle, and shaking it rapidly for nearly half an hour. When this is the case, the quality of the butter thus formed, and the changes which the milk, or cream, undergoes, are obviously entirely independent of any chemical influence from without.

In the process of churning, the oxygen of the atmosphere may exercise an influence upon the several ingredients which the milk contains. And it is highly probable, that churning with an excess of air, causes the envelopes to absorb oxygen, to become partially soluble, to thin off, and finally burst, and thus liberate the fatty matter within. It is equally probable, also, that, in ordinary churning, the presence of air exercises a real influence upon the process, by modifying its rapidity and the quality of the butter obtained. The form of the churn, therefore, which admits the air to the most intimate and renewed contact with the milk, or cream, may also facilitate the changes by which churning is attended.

It is supposed by some, that, if the cream for churning is not taken off whilst the milk is sweet, the butter cannot be good; but this is an error. Milk should stand, undisturbed, as long as it is

sound, before it is skimmed, in order to afford the most butter and that of the best kind. In cold weather, it may stand 6 or 7 days before it is skimmed; but in hot, close, or thundery weather, perhaps not more than 10 or 12 hours. The cream will keep best on the milk, as long as the milk is sound; and the sooner it is churned after it is taken off, the sweeter the butter. And butter produced from sweet cream has the finest flavor, when fresh, and appears to keep longest without acquiring rancidity; but the buttermilk, so obtained, is poor and small in quantity. When the cream is intended for churning, however, it may be kept until it turns slightly sour; as then, the butter will be more readily "come." For, if churned when quite sweet, the operation will be tedious, and frequently fail. In occurrences of this kind, the dairy maids, of old, used to declare that the milk was "bewitched," and fearfully proceeded to devise some means of driving off the "spell." The cause of this, is the want of acidity, which is not the case when the cream is kept for a certain time. The addition of a little rennet, strong cheese, or vinegar, is the proper remedy in this case, and will cause it almost immediately to appear.

Milk, when scalded, it is said, yields the largest quantity of butter, which, if intended for immediate use, is agreeable to the palate, and meets with a ready sale; but if designed to be salted for long keeping, it is liable to acquire a rancid flavor. Besides, the process of scalding is troublesome, and the milk, after the removal of the cream, is poor and unfit for use.

During the operation of churning, it is very important that the milk, or cream, is brought to a proper temperature; say, from 58° to 60°. This can be ascertained by the use of a thermometer churn, and may be effected by means of hot or cold water. In summer, the churn may be kept cool by placing it in a tub of cold water, or by covering it with a cloth previously dipped; and in cool weather, a contrary effect may be produced by using hot water instead of cold. The churning may also be performed in a warm room, but not near a fire.

The butter, when churned, should first be worked in fresh, cold, spring water, so that it may become firm; and at the end of the fourth washing, some salt should be thrown into the water, in order to raise the color of the butter, as well as to wash or purge away the milk that may remain. Then, after thoroughly working the butter with a wooden slice, or spoon, and gently pressing it with a clean, wet towel, or with a clean, soft sponge, wrapped in a cloth, it will be fit for immediate use; but, if intended to be long preserved, let it be put up forthwith, in a cask, holding 60 or 70 lbs., and cured by a mixture of 1 part, by weight, of raw sugar; 1 part saltpetre; and 2 parts of best St. Ubea, Cadiz, Liverpool, or Turk's-Island salt, well incorporated together and reduced to a fine powder. One ounce of this mixture is enough to preserve a pound of butter; or if salt alone be used, one ounce to a pound will be sufficient. In working butter, the hands should not come in contact with it more than can possibly be helped.

When packed for sale, butter cannot be too firmly pressed into the cask, nor too carefully covered, to exclude the air. One of the best methods

of doing this, is to fill up the pots, or casks, to within an inch of the top, and then lay on common coarse salt to the depth of three fourths of an inch, just before heading or covering them up.

Butter should never be kept unsalted till the next churning, for the purpose of mixing the two parcels together; for this injures the flavor and renders ever afterwards the whole mass too soft to become firm.

CAST-IRON GARDEN CHAIRS.



• FIG. 39.

THESE utensils are made of various sizes and patterns, and if carefully used and kept well painted, they will resist the effects of the weather for hundreds of years. They form a handsome ornament for gardens, or pleasure grounds, and are often found very convenient to sit upon, which may be done without soiling the clothes. Prices, from \$4.50 to \$10.

AGRICULTURE OF THE CHINESE.—No. 6.

Egg-Hatching by Artificial Heat.—One of the greatest lions in Chusan is an old Chinaman, who, every spring, hatches thousands of ducks' eggs by artificial heat. His establishment is situated in the valley on the north side of the city of Tinghae, and is much resorted to by the officers of the troops and strangers who visit the island. The first question put to a sight seer who comes here, is, whether he has seen the hatching process, and if he has not, he is always recommended to pay a visit to the old Chinaman and his ducks.

When I set out upon this excursion for the first time, it was a beautiful morning in the end of May. The mist and vapor were rolling lazily along the sides of the hills which surrounded the plain on which the city of Tinghae is built; the Chinese, who are generally early risers, were already proceeding to their daily labors, and although the greater part of the laboring population are very poor, yet they seem contented and happy. Walking through the city, and out at the north gate, I

passed through some rice fields, the first crop of which had been just planted, and a five minutes' walk brought me to the poor man's cottage. He received me with Chinese politeness; asked me to sit down, and offered me tea and his pipe, two things always at hand in a Chinese house, and perfectly indispensable. Having civilly declined his offer, I asked permission to examine his hatching house, to which he immediately led the way.

The Chinese cottages generally, are wretched buildings of mud and stone, with damp earthen floors, scarcely fit for cattle to sleep in, and remind one of what Scottish cottages were a few years ago, but which now, happily, are among the things that were. My new friend's cottage was no exception to the general rule—bad-fitting, loose, creaking doors, paper windows, dirty and torn; ducks, geese, fowls, dogs, and pigs in the house and at the doors, and apparently having equal rights with their masters. Then there were children, grand children, and, for aught that I know, great grand children, all together, forming a most motley group, which, with their shaved heads, long tails, and strange costume, would have made a capital subject for the pencil of Cruikshank.

The hatching house was built at the side of the cottage, and was a kind of long shed, with mud walls, and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets, well plastered with mud, to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts, a small fire-place being below each basket. Upon the top of the basket there is a straw cover, which fits closely, and which is kept shut whilst the process is going on. In the centre of the shed are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process.

When the eggs are brought, they are put into the baskets, the fire is lighted below them, and a uniform heat kept up, ranging, as nearly as I could ascertain by some observations which I made with a thermometer, from 95° to 102°, but the Chinamen regulate the heat by their own feelings, and therefore it will of course vary considerably. In four or five days after the eggs have been subjected to this temperature, they are carefully taken out, one by one, to a door, in which a number of holes has been bored nearly the size of the eggs; they are then held against these holes, and the Chinamen look through them, and are able to tell whether they are good or not. If good, they are taken back, and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken from the baskets, and spread out on the shelves. Here no fire heat is applied, but they are covered over with cotton, and a kind of blanket, under which they remain about fourteen days more, when the young ducks burst their shells, and the shed teems with life. These shelves are large, and capable of holding many thousands of eggs; and when the hatching takes place, the sight is not a little curious. The natives who rear the young ducks, in the surrounding country, know exactly the day

when they will be ready for removal, and in two days after the shell is burst, the whole of the little creatures are sold, and conveyed to their new quarters.

GARDEN IMPLEMENTS.

The following minor garden tools will be found particularly useful, the present season, to any one possessing a garden:—



FIG. 40.

GARDEN TROWELS.—These implements, which are shown by fig. 40, are used to plant or take up for re-planting, herbaceous plants, very small trees, roots, &c.; they are also used for stirring the soil among tender plants in confined situations and loosening the roots. Prices, from 50 to 75 cents.



FIG. 41.



FIG. 42.

GARDEN RAKES.—These vary in the length and strength of their teeth, as well as in their number; they are used for covering seeds, raking weeds, or cut grass, smoothing and pulverizing surfaces, &c. Fig. 41—Prices, 25 cents to \$1.25.

GRASS EDGING KNIVES.—These are fitted to a straight handle, and used for paring the edges of grass bordering walks, &c.; also, for cutting the outlines of sods, which may then be readily raised by the spade. Fig. 42—Price 75 cents.



FIG. 43.

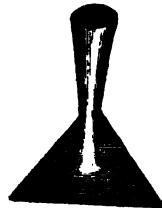


FIG. 44.



FIG. 45.

GARDEN HOES.—These are of various sizes and patterns, and are adapted for weeding out beds of different descriptions. Fig. 43 is a fork-backed hoe; fig. 44, a triangular hoe; fig. 45, a prong-



FIG. 46.



FIG. 47.

backed hoe; fig. 46, a square hoe; fig. 47, a half-round hoe, all of which are made of cast steel. Prices, from 37½ cents to \$1.

THE COW—HER DISEASES AND MANAGEMENT.—No. 2.

Blest cow ! thy praise shall still my notes employ,
Great source of health, delightful source of joy !
How oft I've fed thee with my fav'rite grain !
And roard'd like thee, to find thy children slain !
Ye swains, who know her various worth to prize,
Ah ! house her well from winter's angry skies.
Potatoes, pumpkins, should her sadness cheer,
Corn from your crib, and mashes from your beer ;
When spring returns she'll well acquit the loan,
And nurse your infants and her own.—*Barlow.*

Fevers.—This class of diseases, in the cow, arises from similar causes as those of the human race, such as extremes of heat and cold, excess in feeding, &c., and often the origin cannot be ascertained.

The symptoms which generally distinguish fever, are, the animal is seized with a trembling over the whole body ; she then becomes hot and restless, with loss of appetite, but is continually anxious to drink ; her eyes look dull and heavy ; her head hangs down, with foam and froth issuing from the mouth ; and she seems, at the same time, to be oppressed, now and then uttering a heavy and mournful groan.

On examining the pulse, at the neck, if the circulation of the blood is found to be very much hurried, the first step, in order to lessen this, is to let blood in a quantity in proportion to the violence of the fever ; and this, at first should not be less than three or four pints. In the course of 24 hours, if the symptoms do not appear relieved, but rather seem to increase, the operation may be repeated. After bleeding, the cow should be placed in a situation moderately warm ; but she should not be tempted to eat before there appears a real desire for food. In the mean time, she should be allowed the use of warm diluent drinks, such as gruel, warm water, &c. ; and, along with these drinks, a dose of medicine may be given, to keep the body open, prepared according to the first formula prescribed for a cold, at p. 142, of the present volume. This treatment is to be followed up by the use of medicines, which have a tendency to open the pores of the skin ; and the following prescription will best answer this purpose, given at one dose, in a quart or three pints of ale, with a little alicepice :—

Gum of myrrh, $\frac{1}{2}$ of an ounce ; powdered valerian, $\frac{1}{2}$ oz. ; assafetida, 3 drachms ; saffron, 3 drachms ; camphor, $\frac{1}{2}$ drachm ; opium, $\frac{1}{2}$ drachm ; mustard, $\frac{1}{2}$ oz. ; saltpetre (nitre), $\frac{1}{2}$ oz.

These means are to be regularly continued, according to the judgment of the practitioner, till a turn of the fever takes place, which may be known by the return of the appetite of the animal. The diet, most suitable for her recovery, should consist of sweet hay, malt mashes, Indian meal, or anything else of a restorative nature.

Fevers, in cows, are never to be accounted fatal, and if timely attended to, will always yield to treatment like the above.

Garget in the Limbs.—This disease, which is also termed "hide bound," "joint yellows," and "constitutional rheumatic weakness," is most frequently caused by heats and colds ; and the draught ox is more subject to it than the cow. The effect of this cause, is to produce obstructed perspiration, which, if it does not occasion inflammation of the lungs, liver, or bowels, induces a general stiffness

of the surface, particularly in the joints, where motion takes place. This disease is more ready to occur when the animal is in a bad or morbid state of the body, from improper feeding, &c.

The first symptoms of the disease are exactly the same as those which appear on the early attack of a common cold (see p. 142). These indications are succeeded by those peculiar to the distemper ; the coat of the animal soon appears of a rusty color ; the hair stands on end ; the hide adheres to the body so tight, that it is moved with some difficulty from the ribs, and even will crack in the attempt ; when pinched on the back, in order to raise the cow up, it gives her great pain, which she shows by bending almost to the ground, attended with moaning or grunting. At the same time, motion is equally disliked ; and if forced to walk, it is done with great difficulty, from the stiffness of the limbs ; and the exertion even causes a violent heaving or working of the flank. Where the disease has been of long standing, the limbs, on attempting to walk, seem to crack like the breaking of sticks ; and not unfrequently, there prevails a swelling of the joints, and also of the udder. In this disease, the appetite is much impaired, and little or nothing is eaten ; fever comes on in its progress, marked by strong pulse, dryness of the nose, and frequent grinding of the teeth. And during the whole period of the malady, the body is in a costive state.

The natural effect which attends the above symptoms, is to excite inflammation ; bleeding, therefore, is thought to be absolutely necessary. In spite of the appearance of the animal seeming low and lean in flesh, a circumstance always conspicuous where the malady has continued long, the bleeding should consist of a pint and a half to a quart at a time ; and if the fever continue, it may occasionally be repeated. When the bleeding is over, the following dose may be mixed together and given, milk-warm, in two quarts of water gruel and half a pint of molasses :—

Sulphur, from 9 oz. to 1 lb. ; grains of Paradise (cardamoms), 3 drachms ; saltpetre $1\frac{1}{2}$ oz. ; turmeric, $\frac{1}{2}$ oz. ; cummin seed, $\frac{1}{2}$ oz.

This medicine generally operates briskly, and will sometimes continue for 10 or 12 hours. After its operation is over, the following combination will be proper, mixed together and given at one dose to the animal, in three pints of good ale, with the addition of a handful of chopped rue :—

Flour of sulphur, 3 oz. ; saltpetre, $1\frac{1}{2}$ oz. ; grains of Paradise, 3 drachms ; valerian, $\frac{1}{2}$ oz. ; cummin seed, $\frac{1}{2}$ oz. ; anise seed, $\frac{1}{2}$ oz. ; gentian, $\frac{1}{2}$ oz.

This mixture may be repeated every day till recovery takes place, which seldom requires more than five or six doses.

Pegging with garget or poke-berry root (*Phytolacca decandra*), it is believed has been tried with success, as will be seen by referring to p. 159. This operation is confined to the dewlap, and consists either in one large incision, or several small ones, through the skin, which requires to be raised from the cellular substance on each side. The wounded part, or parts, is then to be filled with some irritating matter, either in the form of powder, ointment, leaves, or roots, which, in exciting inflammation, will form matter, or pus, and thus

promote a discharge externally, in order to relieve the internal affection, or make the revulsion complete from the seat of the disease. By this operation, the inflammation excited must be considerable, and the extent of the incision should therefore correspond to the nature of the case. In all instances, where this operation is employed, the incision should be continued open for a length of time, both that the existing symptoms may be relieved, and also, that the danger of any relapse may be prevented.

FARMERS IN THE ASCENDANT.

THE occupations of the members and officers of the House of Assembly, for New York, at the late session, were as follows:—Fifty-four farmers, eighteen mechanics, three physicians, nineteen lawyers, eighteen merchants, five gentlemen, three manufacturers, three clerks, one mariner, one engineer, one ferryman, one hotel keeper, one lithographer, and two editors; the farmers being about 42 per cent. of the whole number. It is this strong sprinkling of intelligent farmers among our rulers, which makes them so liberal in the encouragement of agriculture, and which we think has tended more than anything else to push New York ahead of all other states in the support of internal improvements, and the development of her natural resources. An intelligent farmer sees at once, that, in order to make his profession efficient, those composing it must be well educated; hence his liberality in diffusing elementary works on agriculture among the district schools, and the generous grants to the state and county agricultural societies.

LETTERS FROM VIRGINIA.—No. 7.

SINCE my last letter, I have been spending a few days in that portion of Loudon county, chiefly in the occupation of individuals belonging to the society of Friends; and I know not when I have enjoyed myself more pleasantly or agreeably, or have been more deeply interested than during this brief visit.

At Waterford, some five or six miles north-eastly from Leesburg, there is a small settlement of these people, consisting of some twenty or twenty-five families, the greater portion of whom are engaged in the cultivation of the soil; and in the vicinity of Goose Creek, at about the same distance, in a northerly, or north-westerly direction from Leesburg, there are some sixty or seventy families, of the peculiar tenets of whose religious faith it is unnecessary for me to speak; but if the habitual practice of the purest morality, in all the relations of domestic and social intercourse, if incorruptible integrity, uniform kindness, and good will to all, who come within the sphere of their influence, quiet, systematic, and well-directed industry, and an enlightened appreciation of the claims of an advancing civilization constitute an essential portion of true Christianity, I am sure these primitive and single-hearted disciples of William Penn and George Fox cannot be "far from the kingdom of heaven." I am very confident that no one, however inveterate, or strong may be his prejudices against this sect, can pass a week among them, mingling freely with them, inspecting the internal

and external arrangements of their households and farms, attending their "solemn assemblies," and acquainting himself with the principles and economy of their institutions, without being forcibly impressed with the practical superiority of their communities in all those elements which go to make up the staple of human happiness and prosperity. There is an atmosphere of "brotherly love," kindness, benevolence, industry, contentment, quietness, and peace, which speaks volumes in their favor, and speedily disarms that worldly-minded intolerance and supercilious bigotry, which would rank these people with the fanatics and enthusiasts, whose vagaries have so often proved fatal alike to their possessors and to society at large.

At Spring Dale, pleasantly located on the banks of Goose Creek, and surrounded by the most romantic and enticing forest scenery, and in the midst of a rural hamlet of farm houses, is an institution for the education of young girls, under the immediate charge of Samuel M. Janney, a prominent member of the society of Friends, and a very intelligent, refined, and cultivated man. Between thirty and forty pupils were in attendance at the period of my visit, all of whom were inmates of the family of Mr. J. and under the immediate charge of his wife and sisters. The course of instruction includes all the branches of a good English education, accompanied by the purest and most elevated moral and religious culture. And the pupils enjoy the additional advantage of an excellent and well-selected library, and a valuable chemical and philosophical apparatus; and all this including board, washing, and lodging, for ten months in the year, at the low price of \$100. Mr. J. cultivates only about ten or fifteen acres of land; but he seems disposed to make the best of this, and has introduced a variety of machinery, propelled by water, to aid him in its efficient management, and to provide for the wants of his large family. The meeting house, at which Mr. J. generally officiates on the Sabbath, is situated about a quarter of a mile's distance from the school; and in its immediate vicinity is a brick school house, for boys, under the charge of his son.

Many of the farms in this neighborhood are such as would do no discredit to the most fertile portions and the most enlightened agriculturists of the empire state. Although located in a hilly, and even mountainous region, accessible only by roads, which, during the fall and winter seasons, are scarcely passable, even on horseback, and quite remote from the great market towns; these enterprising occupants have succeeded in rendering them eminently productive and highly valuable. The average price of land, in this neighborhood, is considerably higher than in that of Leesburg, notwithstanding the numerous advantages of the latter. From \$50 to \$60 per acre can generally be commanded; and few are willing to sell even at these prices. Much is undoubtedly due to the strong desire of these people to form and keep up a neighborhood of their own, where they may enjoy their common religious faith; but even a cursory examination of their farms will serve to convince any one at all conversant with scientific agriculture, that, where nature has been propitious, her bounties and gifts have been appreciated and improved, and where she has bestowed her favors with a niggard hand, industry,

skill, and culture have endeavored, not without marked success, to remedy the deficiency.

Having enjoyed but a limited opportunity of inspecting the farms in this extensive neighborhood, I feel that it would be invidious and unjust to particularize, where all are, undoubtedly, excellent; but I cannot omit referring to the large farm and extensive fruit and flower nursery of Yearly Taylor, and to the highly-cultivated grounds of John Smith, Elisha Janney, and their immediate neighbors, which I enjoyed an opportunity of seeing. The perfect neatness and order which everywhere prevailed—the entire absence of brush wood, weeds, stones, &c.—the long ranges of stone fence—the commodious and convenient out-buildings—the abundance of fruit trees of every variety, and the systematic allotment of the various crops of grain, grass, and vegetables—all bespoke the presence of an enlightened and efficient system of tillage and husbandry.

I am told that these settlements of Friends are increasing in various directions in this state; that a large colony has recently purchased several thousand acres in the neighborhood of Mount Vernon; and that numerous accessions from Pennsylvania, New Jersey, and the northern states are soon expected. A better, or more unexceptionable class of immigrants, could not be desired; and I venture the prediction that in whatever community this excellent people cast their lot, there, not only will the value of the soil be rapidly enhanced, but the general aspect of husbandry improved, and the happiness and well-being of individuals and families augmented and promoted. Their views of religion have been adopted from principle; have been maintained in their primitive purity and simplicity, through evil and through good report; and are eminently productive of "good fruits" to themselves and to the community. Indulging no evil passions, conforming to no worldly views of aggrandizement, wealth, nor power—coming in conflict with no forms of violence, oppression nor tyranny, and fermenting no disturbances, they seek only so to improve the opportunities God has bestowed upon them, and so to fulfil the destiny committed to their charge, as to deserve well at the hands of their fellow men and secure the approbation of their Maker.

A NEW-YORKER.

TO STOP THE PROGRESS OF DECAY IN OLD TREES.—Choose a dry day for the operation, and have the decayed wood cleaned completely, and carefully out, so as to leave none to spread infection again to the sound part. Have ready, in a vessel that can be kept hot in the garden, or orchard, a mixture of one part rosin, and three parts clean grease, which, while hot, apply with a paint brush, if the cavity be small, or a white-wash brush if it be large, and put a thick covering of it over the newly-exposed wood; then fill the hollow with earth. I have known a very old and much decayed tree so treated, that seemed to be completely renovated, and continued to flourish for many years, and would probably still have survived, had it not been blown down during a severe ice storm three years ago.

E. S.

LETTERS OF R. L. ALLEN.—No. 4.

My limited time did not permit my saying all I intended in "Letter No. 2," in March number, on the subjects there touched upon, and I shall here briefly add what I deem essential for the present.

Although one of the first and most important steps towards a general and thorough agricultural improvement in the southwest, yet there would be no little inconvenience attending the organization of societies for this purpose, in many sections of this country, from the difficulty of drawing large bodies together, except at considerable sacrifice of time and expense. But in every state there are one or more central points, where planters and farmers could assemble with little inconvenience; and these might become the rallying points for all those disposed to learn, or compare their own efforts with those of their associates. Let there be one leading society at least, in every state, and as many county, or local associations as may be deemed expedient, or could be well sustained. If the localities for the annual meetings, exhibitions, and the officers, were judiciously selected, and the proceedings directed by such intelligent minds as every community affords, there is no question of the beneficial results. But there is too often a radical mistake in some important feature, which often defeats exertions that might otherwise be eminently successful. An instance is afforded in the State Society of Louisiana.

The annual exhibition in this state, has heretofore been held at Baton Rouge, since the recently-adopted constitution made the political capital of the state, and certainly much nearer the geographical center than its commercial emporium. Yet, although surrounded by an intelligent agricultural population, who exhibit some of the best plantations in the south, the annual meetings have hitherto failed to command that general attendance and interest, which it was the object of the society to secure. There has consequently been no enthusiasm awakened, and no benefits derived, which were to have been expected from an extensive, flourishing, and almost purely agricultural state. Had this association held its annual meetings in this city, though occupying one of its remotest corners, and almost exclusively commercial in its character, it would have concentrated the attention of a large body of the planters, whose business annually calls them here, and who could attend the exhibition and contribute to its interest by their various productions, with a tithe of the inconvenience to which they would be subjected, even if held within 15 or 20 miles of their residence.

With agriculture, there might be advantageously associated, in this place, her handmaids, the mechanic arts. Here, more than in any other part of the state, are they to be found in abundance and perfection; and by their combination, an interest would be excited, and a benefit felt which could nowhere else be realized. Here, might start into full life and vigor, a *Southern American Institute*, to become in time, not an unworthy rival of her elder sister of New York. Such an institution, properly organized, wisely and energetically conducted, would astonish even Louisiana herself, by the variety and perfection of many of her contributors. It would stimulate ambition, excite in-

quiry, induce investigation, inform the public mind, and carry forward improvements far beyond the anticipations of the most sanguine and enthusiastic. Whoever may become the founders of such an institution will have fairly earned the lasting gratitude of the state.

Economy of labor, by the adoption of the best implements, is a subject not sufficiently heeded. The adoption of the cast-iron plow, with its renewable points, or shares, which, with a trifling expense for their first cost, can, in a moment, replace those worn out or broken, and thus effectually repair the plow, is calculated to abridge labor to a large extent. Many planters have assured me, that plows equal to such as they can purchase for \$4, of the best eastern make, they cannot manufacture at home nor procure in their neighborhood under \$7, and that the repairs, on the latter, before the first mould wears out, will cost \$4 or \$5 more; thus making a useless expense to them of two or three times the necessary cost of this implement.

Much time is also wasted by the neglect to provide a greater variety of implements. With many, the plow and hoe are made to cultivate the entire crop; while the cultivator, the harrow, and other implements are never used. These last will frequently do what the plow cannot, and accomplish the same work at one third the expense. Some will have but a single size and style of plow to perform all their labor. This must give either a very imperfect breaking up, or first plowing, or a most unwieldy and unnecessarily fatiguing process of cultivation. The use of the corn planter, which will drop a uniform quantity, at regular distances, and at any required depth, with one mule and hand only, and furrow, drop, cover, and roll 10 to 12 acres of corn, beans, peas, or cotton per day, would seem to be a very desirable labor-saving machine for extensive planting, yet few are in use; not from an apprehension that they will not answer the purpose, but apparently because it is not an object to save labor. The same is true of corn shellers, straw cutters, manure and pitch forks, scythes, grain cradles, fanning mills, rakes, &c., &c., which would greatly abridge labor; yet, if we except some of the best plantations, not one in ten of the remaining ones through the south, have a single one of the foregoing implements. One gentleman told me recently that he was called upon, with some others, to appraise an estate which was cheaply estimated at \$160,000, and after deducting a few new plows, all the farming implements that were, and had been, in use for carrying on the plantation, were dearly estimated at \$25; and he added, "he would not have sent 300 yards to have received them gratis."

Simplicity is desirable in all operations, and especially is it among such laborers, as are proverbially careless and ignorant. Yet perfection, or considerable improvement, can only be achieved by a careful study of the best implements and adapting them to general use. I was struck by the statements made to me last fall, by Judge Van Bergen, of New York, of the large quantity of products, corn, hay, wheat, &c., he raised with an incredibly small number of laborers, and think his statement would be highly instructive to the public. All this was accomplished by the judicious selection and inven-

tion of such implements as were best calculated to subserve his purposes and accomplish what is of the highest importance throughout the United States, *the economy of labor*. The improvement in implements, constitutes one of the greatest aids to agricultural efforts of the present day, and if we neglect to avail ourselves of them, we forego the principal advantages that distinguish the present century from the last.

New Orleans, Feb. 7th, 1848.

THE DUCHESS TRIBE OF SHORT-HORNS.

THE following letter was received by George Vail, Esq., of Troy, from Mr. Bates, of Yorkshire, England, dated August 9th, 1847:—I forward you a paper with an account of the Yorkshire County Agricultural Society's meeting just held. I sent five animals, viz., 2d Oxford and her last five calves, to show the uniformity of the family; all obtained premiums [two first, and three second premiums]. Mr. T. Bell showed a calf, a grandson of your Hilpa, got by my 2d Duke of Oxford, which won the first premium for bull calves. The bull calf, shown by Mr. Maw, which won the 2d premium, was also got by a bull of my breeding. Mr. Maw also exhibited the 2d best bull under three years old, got by my Duke of Northumberland, and bred by Mr. Robt. Bell. Mr. Maw also showed Red Duke (of my stock), and which would have beaten Mr. Parkinson's bull Capt. Shaftoe, had he been in condition, being much superior to Shaftoe. Shaftoe was very fat, but his quality was bad, and though a year older than my 2d Duke of Oxford, was at least one fourth less in weight, with all his high feeding.

My 2d Oxford is from the same cow as the dam of your Wellington, and got by the same bull.

Nearly all the prize cattle of the Royal Agricultural Society's show (to which I sent nothing) this year, were at the Yorkshire show. Mr. Parkinson was sadly disappointed in not getting the first premium on Shaftoe; but there were many better bulls in the yard. This bull, Shaftoe, was shown in 1845, at the Highland Society's meeting at Dumfries, and was beaten by Mr. Harvey's Walton (of my breed), who got the 1st premium, and a son of my 2d Duke of Northumberland, won the second.

At the Royal Agricultural Society's show this year, Walton was shown and beaten by Shaftoe, who won the first premium there. The judges did not condescend to look at nor handle him; they were totally unfit for their office, never having owned nor bred a Short-Horn. It is a disgrace to the Royal Agricultural Society, that Walton, now shown for the third time at its meetings, has had the worst bulls each year placed before him.

Shaftoe was shown in 1844, at Richmond, where my Cleveland Lad 2d, won the 1st premium, and Shaftoe the 2d, beating Mr. Hopper's bull, Belleville. Thus my 2d Oxford beating Shaftoe this year was equally decisive as against Belleville. Belleville very improperly received, in 1846, the highest prize at each of the four greatest shows in England, Scotland, and Ireland.

My three Short-Horns that were placed second to others, were as superior to those placed before them, as the two that were placed first, in their

classes, and this was admitted by all who saw them.

Fat and size are too much looked at in decisions in England, as they please the eye.

I give you this detail, and send you five newspapers with accounts of the Yorkshire show, that you may show them at your great state show at Saratoga, and may send them to your newspapers and to Canada. I think you may state the near relationship of yours to these of mine. I do not doubt you will be successful with Hilpa at Saratoga. [Mr. Vail was so, and won the first prize. Ed.]

REVIEW OF FEBRUARY NO. OF THE AGRICULTURIST.

Cultivation of the Sweet Potato.—In my late visit to the state of Maine, I was surprised to learn that this delicious vegetable had been grown in tolerable perfection so far north. But the great difficulty arises from the trouble of keeping the seed through the winter. Not one cellar in a hundred will answer; and the directions given by the editor, are not quite sufficient for that purpose. Besides having the tubers dry, and packed in dry sand, great care should be observed to select the roots all of about an equal, or medium size, perfectly sound, and the sand not only dry, but clean, and not from the sea beach; because that is more likely to absorb moisture. The best way to pack them, is in barrels, having a good many auger holes bored through the staves, into which wisps of straw must be stuffed to prevent the sand from running out. Every potato must be put in separate, and completely surrounded with sand; and if you have an upper room where you can keep the barrels without freezing, you will always have sweet potato seed. These directions are for the north; at the south, they would laugh at such a thing.

Apple Orchards, No. 6.—Indefiniteness in directions for the cure of any malady, or performing any work, I am always at war with. In directions to cure the blight, we are told to get a "whitewash brush, then get a large pot of double size." What for? Why won't a big kettle answer? Not one reader in ten will ever think the large pot is to hold anything but whitewash. [What can be more definite? A large pot of "double size;" that is, a pot, or kettle, if you please, filled with "soft glue," obtained from the skins of animals, but evaporated less than common glue, in order that it may be kept in a semi-fluid state.]

Cultivation of the Osier.—The article upon this subject is one of great value, particularly to the south, where the cultivation of osiers is more needed than in any other part of the world that I know of. Upon every cotton plantation, the use of baskets, in great numbers, is indispensable; and the annual wear of them is so great, that it is very difficult to obtain timber in many places to supply the want. Therefore, I would press upon the notice of planters, the immediate cultivation of the osier willow. The variety of uses to which osiers can be applied, do not begin to be enumerated in the article under review.

Live-apple Tree Posts, as suggested by the Massachusetts Ploughman, for permanent fence, is well

worthy of serious consideration. I think the hint a valuable one. Let it be discussed.

Hydraulics for Farmers.—Is it possible that any sane man has read what has been published for a year or two past, without taking steps to provide himself with a machine to bring the water up the hill, or save the wear and tear of cattle and conscience, from going down after it, when situated just like the farmer spoken of by Mr. Bacon? Yes; hundreds. I know one man who is worth thousands of dollars, and who is what is called of sane mind, whose family bring every drop of water, forty rods up the hill, where, without the least trouble, a water ram could be set to work; and yet he takes no steps to provide one. Is such a man truly sane?

Consumption of Wood in the United States.—If there are upwards of 10,000,000 cords of wood consumed as fuel, every year, besides the enormous destruction of forests that is constantly going on, to prepare new land for cultivation, the time is indeed short, when this country will be one almost destitute of timber. I have heard the argument used, that railroads would equalize the supply, by bringing timber from plentiful regions, to places where it is most needed. This will be so for a short time; but railroads will constantly tend to make the evil greater, not only by inducing owners to clear up all the land along the lines, but when these roads once reach the widespread prairies of the west, the demand for timber will be more extensive at that end, than it will be at the eastern end of the roads. The only remedy for so great a calamity as a scarcity of timber among a people so accustomed to the extravagant use of it, as this Yankee nation, is an immediate, energetic commencement of a systematic planting and culture of trees for timber. Every agricultural society and paper should take the matter in hand. Many of the once-wooded districts of Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia, are already suffering a destitution of timber; and few or no plantations are making to supply the dearth. The subject is very important. And so is the

Season for Cutting Timber.—So far as regards the right time for cutting all kinds of timber liable to powder post, I shall give my vote in favor of mid-summer.

Swine, No. 2.—You need not have gone to the Zoological Gardens of London, for a portrait of the wild boar, figured in this number. Indeed, I think I can discover almost a perfect likeness of the picture, in the lot of one of my neighbors, not a thousand miles from the City Hall of New York. And he insists upon it that the breed is just as good as any.

Education of Farmers.—I notice this article, not because I suppose that I can induce farmers to adopt a better; that is, an agricultural education for their children; for the fact is, their education is good enough now; if it were better, or what the editor of the *Agriculturist* would contend it ought to be, in twenty years' time, we, professional men, would be turned out of the Legislature and Congress, and our places all filled with farmers; and then what would this country come to, I should like to know?

Upon the subject of the grant of lands to the

western states allow me to explain. In the first place, all the land is laid off into townships of six miles square, sub-divided into sections one mile square; and these into fourths, eighths, and sixteenths; with all the sections in each township numbered from one to thirty-six. The one numbered sixteen is devoted to the use of common schools, for the benefit of all the inhabitants of that township. Sometimes these lots are very valuable, and at others utterly worthless; so that the benefits of this great grant of land, are very unequally distributed, and often, by bad management of the inhabitants, sadly wasted. Of the grants spoken of to colleges and academies, of course I know nothing; perhaps some western man will tell us what has become of this enormous fund. But at any rate, I have never heard of the first acre being appropriated to educate farmers, in the business of their calling.

I pray you, tell me if you can, is Mr. Smithson's magnificent bequest, likely ever to aid much in the education of American farmers? [No. Speculations on the origin of the Indians are more important.]

Hauling Fuel.—Burning green wood. I am willing to concede everything to the argument in favor of dry wood, so far as hauling is concerned; but not for all that is claimed in favor of entirely-seasoned wood for fuel. I am yet to learn what little I know of chemistry over again, if water itself cannot be consumed, and greatly increase the heat of the fire. And if half-seasoned hickory, beech, and maple wood will not make a more intense heat, than after it is fully and entirely seasoned, the quantity and time being equal, then I am no judge. [Pray, Captain Reviewer, did you ever consider how much heat is wasted in warming the sap in green wood, before you derive any benefit from it?] I would always have dry fuel, but I do not believe in the economy of burning nothing but dry fuel; particularly while I continue to sit by a good, old-fashioned New England fireplace, with a backlog and forestick.

Yankee Farming, No. 2.—Ship ahoy! Hello-o-o! Sargeant, what ship is that? I was "artin sure" I knew you, as I hinted in my last; but you have now blown me out of my reckoning, and I "guess" you have put me down in your imagination, as a Corporal only of marines, and a "land lubber" to boot, instead of a Corporal in your smart militia company. I'll give up the "Corporal," and fall back upon the title by which my neighbors distinguish me, namely, "Captain," from having commanded a merchant ship, sailing out of Boston for several years. In describing Uncle Sim, I really did think I knew him, and *par consequence*, you also; but Aunt Nabby, the charming Molly, the boys, and above all, that "middle-sized, brindled-colored, bob-tail dog," has "clean done me up." I really don't know them, nor can I even "guess" now who they are. I've lost both my latitude and longitude, and did n't make land when I thought I had. It's a regular *mirage*. Well, Aunt Nabby is a character, that's a fact, with her voluble tongue, and lean, skinny form. How I should have been delighted to hear her eloquently holding forth upon "raisin' chickens and hatchin' ducks." O Sergeant, you let the "punkin sauce" burn too

quick, and "put in your oar" before you were ordered, sailor fashion, and "gave way." Pray, let us hear Aunt Nabby again. But take care, Sergeant, that you do not let the cat *too far* out of the bag, or the fair lady may get her back up, and scratch your face yet. But I don't know when I have laughed more than I did over the mishap of Uncle Sim, shooting the Tom turkey for the owl—the "tarnal critter"—whom he was going to show "what eatin' chickens is!" Well, Sergeant, you are a capital fellow, so "heave ahead," and if I was mistaken in my man, and don't know you now, I shall hope to be so lucky as to make your acquaintance one of these days. I "give in," entirely, about the "Corporal," and will have no more of him. "Fath," as the Irishman said, "it isn't meself, at all, at all, me honey." However, the moral of the story is excellent. But what shall we do for those poor souls that never yet had occasion for a "poultry house," and are nearly "hooted" out of their seven senses by something worse than an "owl," every time there is a disturbance among the poultry of a night, upon the trees and fences surrounding the house and out-buildings?

Letters from Abroad—No. 1.—Description of the Douro country. True to the letter. I well recollect in my younger days, when second mate of a brig, bound in there for a cargo of wine, of gliding up the "pure, bright waters" of that river, and witnessed, also, the "soul-cheering spectacle" of gathering grapes, and treading out wine. I hope the writer will not forget to tell us about those elder berries, and the brandy they make use of, in brewing Port wine for us foreigners. The natives know better than to drink such stuff. They are satisfied with the *pure* juice of the grape.

How to Make Good Coffee.—Can that be good, which is not good, however good it may be made? Though I suppose that if I condemn the use of it, I shall condemn myself to the anathemas of a mightier host than I can war against at this time. So I shall leave all who desire to continue the use of a slow poison for a daily drink, to prepare it according to the directions given.—REVIEWER.

PLANTATION TOOLS.

I HAVE now in use some of the new plows made by Ruggles, Nourse & Mason. They were made higher on the beam, at my suggestion, and I assure you there is all the difference imaginable. And as a proof, that I am not thus influenced, because this is a whim of my own, I will inform you that Mr. Wm. Montgomery, a planter of full fifty years' standing, ordered two of the cast-iron plows, made by the above firm, last year, to try them; he was displeased with them, as he could not keep them from choking. Upon seeing my new plows, a few days since, he directed me to order some for him. Another neighbor has done the same thing. This is the best kind of reference.

I also have one of the improved drawing knives, and have had to order one dozen for other persons. There are six men making shingles within two or three miles of me; my knife was borrowed about three days; all six of the men now have knives of the same kind. Mine would have sold at \$3. The price in New Orleans, is \$1. This is the estimate placed on a good tool. With your northern

farmers, it may be, that they do not need a drawing knife as we do, as they can get a good one from \$1 to \$1.50; but with us, it is a rare chance if one out of five is worth a dime. Therefore, when we can buy a dozen good ones at once, it is really worth bragging of.

Another good implement I have—a steel weeding hoe. I have bought steel hoes for three past years; and had as much as I could do to make a crop set. With my present lot of hoes, I count upon making two crops certain, and with some of them three and four crops. There has been too much slop work made up and sent out south, on the score that anything will do for those folks; they don't know any better any how.

The above tools, I received from R. L. Allen, No. 75 Camp street, New Orleans, who will promptly attend to all orders—if I judge by his promptness to mine. I make the above statement for the benefit of the planting interest. As to the cast-iron plow, which many have an objection to, I beg to say, I have used two cast-iron plows this season, and have used them since 1844, inclusive, as much as I have any other plows. I have others that I have used one, two, and three years, and if I except last year, I might say, I have broken none. A neighbor, who came here to put my tools in order, remarked to me—"if that overseer you had last year would stay with you five years, he would break up all you ever made." At all events, I am determined to use no other plow. If the planter could get sharp, chilled points and shares at 6 cts. per lb. he certainly could not get his wrought-iron plows put in order so cheap, if the smith were in his own shop. And as to making a good plow of cast iron, I have seen two stout mules and two quick-running, stout horses, brought up in an instant by the plow striking a root, where it hung, requiring a strong negro to pull and tug for a minute or so, ere he could drive on. The plows in the outset, cost no more, and are not set out of shape by putting on a new point, nor a new share. I would recommend to the manufacturers to make the shares quite sharp and chilled; or self-sharpeners, and out of the best iron.

I would advise planters to buy four or five extra points to each plow, one bar, or land-side to every five plows, and buy a full set of one kind; thus will they be easily repaired, by making two into one, as they wear out.

M. W. PHILIPS.

Edwards, Miss., January 24th, 1848.

MODES OF DESTROYING RATS.

Dr. J. V. C. SMITH, of Boston, stated, at a late meeting of the Massachusetts Legislative Agricultural Society, that he had had some experience in destroying rats and mice. The use of ratsbane (arsenic), he considered of very little service; as, after one or two have partaken of it, the others will not touch it. In England, he said, the work of destroying rats is followed as an employment. A person goes about the county and engages to destroy one or more hundred for a stipulated sum. He carries a large bag with him, which he sets open, and with a peice of hard-baked bread, covered with a preparation of the oil of anise and the oil of rhodium, entices them to enter, by means of the charming odor it emits, and thus is enabled to en-

trap the number required. Dr. S. said that he had tried the oil of anise alone, and that he had hardly time to leave the room before the rats took the bait; being so eager after it, that, seemingly, they would almost go through fire to obtain it.

Another method suggested, was to catch one or two rats, cover them well with tar and let them loose again. Upon this, the other rats will turn upon them, and, becoming themselves besmeared with the tar, will commence a civil war with one another, which will result in clearing them all from the premises.

Another mode had been tried with success, by mixing a table-spoonful of pulverized plaster of Paris, with a little sugar, in a tea-cupful of Indian meal. If the vermin eat this, it will cause them to die. Throwing pulverized potash in their pathways, it was stated will give them such sore feet that it will cause them to forsake their customary haunts.

ARTIFICIAL SWARMING OF BEES.

As the management of honey bees has been my sole business for these last twelve years, in the city of New York, I have thought it would not be amiss to give my own experience in a few particulars in regard to these industrious insects.

Artificial swarming is not generally practised in this country, owing probably to the want of sufficient practical skill in most of those who apply themselves to bee husbandry. For several years, I have divided my bees, not allowing them to swarm in the natural way; and I find a great advantage in so doing by reaping the full benefit of the stock. It saves the watching necessary in the case of natural swarms, and if conducted on right principles, it renders the artificial colony quite independent of the casualties to which they are liable. Moreover, it secures the multiplication of swarms in cases, where, if left to the natural process, there would be none. Should a continued spell of bad weather occur about the usual period of swarming, the old queen would have time and opportunity to destroy all the royal progeny (for the bees never oppose the queen mother in such cases), and thereby entirely frustrate the hope of multiplication by natural swarms. In order to avoid this evil, we must have recourse to artificial swarming. The general period proper for the operation, is about eight or ten days previous to the time when natural swarms might be looked for. At that time, it is likely that royal broods would be found in the combs; at all events, an abundance of eggs and larvæ, of workers, from which might be reared an artificial queen; the males, or drones, are also at this time numerous—a state of things indispensable, in order to secure success.

I had a number of hives which had not swarmed, probably owing to an unfavorable change of weather. In consequence of this delay, the reigning queen had an opportunity of putting to death her intended successors. In this state of things, from the crowded condition of the hives, a mass of bees, as large as a man's head, hung from the alighting board of each, while others were clustered on the outside of the hives. With these hives, I resolved to try artificial swarming. I cut out of another hive, a piece of brood comb, containing

eggs and larvæ of the proper age, about three days old, and fixed it in one of my principal hives. I then removed one of the hives which had an outlaying, or rather, an outthanking mass attached to its alighting board, instantly clapping down in its place, on the same board of the hive already prepared; then with a brush, I swept these bees off by the new hive, and all that I could get out of it. Next, I removed the old hive some distance from where it stood, and with the help of a hot sun, forced them to enter. They made a tremendous noise, and seemed much disconcerted at finding, instead of the rich combs with which they had hitherto been familiar, nothing but an empty hive. This agitation was kept up all day by the continued arrival of those bees which had been abroad when the substitution took place, adding greatly to the increase of the stock. At noon, the next day, I inspected the new establishment, and found, to my great satisfaction, that the experiment had completely succeeded. The foundations of six royal cells had been laid in the small piece of brood comb I had given them; in due time, the queen was hatched; the hive prospered, and I sold it for \$25. At the end of the season, the hive was as good as any of my natural swarms.

Another experiment in forming artificial swarms, and the one I generally practise, is to drive about two thirds of the bees out of the old hive with their queen, into one that is empty. Then, I immediately replace the old hive on its former station, and remove the new one containing the queen, to a little distance. As the former will have a plenty of eggs and young brood, there will be no trouble in procuring another queen.

Of the experiment I am now about to detail, the sole object was to prove the existence of the power inherent in bees of rearing an artificial queen, when deprived, by any accident, of their original mother. This, indeed, had been proved before; but only incidentally, and I was anxious to put the matter beyond all doubt in my own mind, at least, by an experiment instituted exclusively for that object, to be conducted with minute and scrupulous accuracy.

In June, my observatory hive was full of bees, brood, and honey. The queen was very fertile and laying at the rate of about 100 eggs a day. I opened the hive and took her out, as I could see every bee within, and every cell in the comb. For about two hours, the bees continued their labors as earnestly and contentedly as if she were still with them. At the end of that time, they became aware of their loss, and all was instantly agitation and tumult. The bees hurried backwards and forwards over the comb, with a loud noise; they rushed in crowds to the door and out of the hive, as if going to swarm; and, in short, they exhibited all the symptoms of bereavement and despair. When night came on, they all went into their hive, and peace and tranquillity appeared to follow. Next morning, I observed they had laid the foundations of seven royal cells, having demolished the three cells contiguous to each of those containing eggs, or worms, which suited their purpose; and by the next morning, there were visible rudiments of five more royal cells, all in quarters of the comb where before there were nothing but eggs and common larvæ, of one or two days old. The bees paid all

attention to these royal cells, as the operation advanced. On the seventh day, the first seven cells were sealed, and on the following day the other five. On the morning of the fourteenth day, from the removal of the old queen, seven young queens emerged from their cells, strong and active, and exactly resembling those produced in the usual way; and on the next morning, I had the other five come forth, equally active and strong. I watched the hive with all diligence, opened the door, and took out the queens as fast as they emerged from their cells, keeping them for the purpose of making artificial swarms. Some of them escaped my notice, after which I found them lifeless on the ground in front of the hive.

EDWARD TOWNLEY.

New York, May 1st, 1848.

CONSTRUCTION OF FARM COTTAGES.

It has been justly remarked, that, a traveller, in passing through a strange, but civilized country, might form a correct judgment respecting the social condition of its rural inhabitants by observing attentively the state, character, and general appearance of their dwellings; and that, a clean, fresh, and well-ordered house exercises over its inmates a moral no less than a physical influence, and has a direct tendency to make the members of the family sober, peaceable, and considerate of the feelings and happiness of each other. Nor is it difficult to trace a connexion between habitual feelings of this sort, and the formation of habits of respect for propriety, for laws in general, and even for those higher duties and obligations, the observance of which no laws can enforce; whereas, a filthy, squalid, unwholesome dwelling, in which none of the decencies common to society, even in the lowest state of civilization, are known to exist, tends directly to make every dweller in such a hovel, regardless of the feelings and happiness of each other, selfish, and sensual; and the connexion is obvious between the constant indulgence of appetites and passions of this class, and the formation of habits of idleness, dishonesty, and even of crimes of higher degrees.

Thus, in travelling over the wide domain of the inhabited parts of the United States, one can judge, in a measure, of the character of the people by what is written in the expression of their dwellings. On leaving any of the Atlantic cities and progressing inland, he first passes through the motley and sometimes squalid suburbs, which chiefly owe their existence to the late unparalleled prosperity of commerce, the progress of manufactures, and their two indispensable concomitants—internal improvements and foreign immigration. Here, we may see cottages of every grade, color, and finish, which fancy, caprice, or carelessness might devise, with now and then, at the interval of a few miles, a stately mansion, in imitation of some purse-proud lord; or, on the brow of yon eminence, there may be seen a castle-like structure

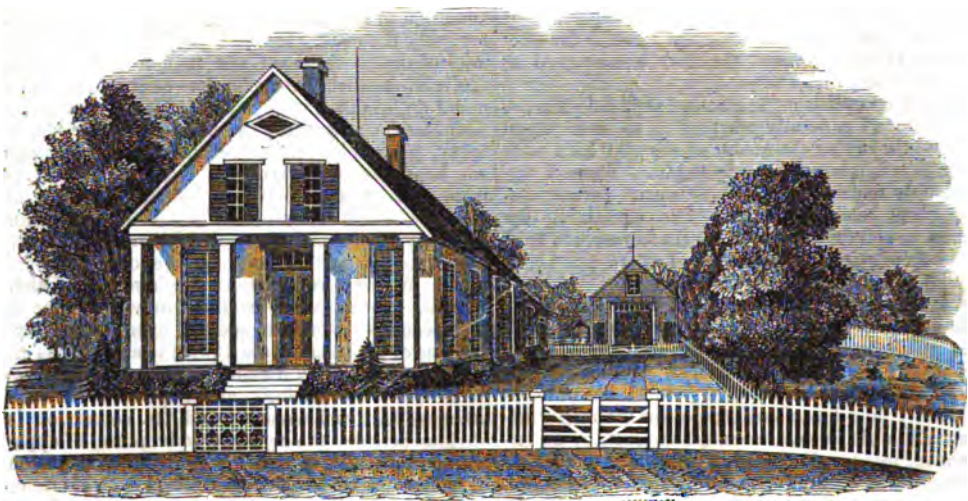
"Embossed high in tufted trees"—

reminding him, almost, that he is surrounded by the feudal oppressors, who long made sorrowful the homes of the Old World. As he advances onward, the road-side cottage, or diversified farm

house appear in every direction, often accompanied by its appropriate garden, orchard, and green; while, occasionally, he meets with the sweet rural village, the houses of which have sprung up by degrees, in detached groups, and arranged after no particular plan, with its rivulet and mill—its gardens and trees—its smiling pastures and green shady lanes, enlivened with poultry, cattle, and sheep, all of which awaken images of security and peace, cleanliness and health.

Again, as he proceeds, the eye of the observer is forcibly impressed with the more recently-built village, or larger town, projected on a regular, though less pleasing plan, with its right-angled streets, long rows of cottages, numerous churches, school-houses, factories, &c., evident marks of the industry, thrift, and "go-ahead-iveness" of its people. And, as he reaches the more remote and thinly-inhabited interior, his attention is arrested, now and then, by a neat log cabin, with its large and commodious barn, erected on a handsomely-cultivated

spot in the midst of a forest, or a prairie, showing that he is in a land lately reclaimed from nature, by the exertions of the immigrant, perhaps, from a foreign clime. To this bright picture, unfortunately, there are many, far too many, exceptions, particularly in a country where well-directed labor will, generally, more than contribute to the support of the artisan, when due economy and sobriety are observed. Without entering into a description of the habitations composing the squalid outskirts of almost every city, or populous town, or the wretched hovels, which line our public works, or those which poorly subserve the wants of the squatter, or trapper, of the west, we have not far to go to witness hundreds of dwellings constructed on no definite principles, either as regards taste or comeliness—comfort or convenience; and it is much to be regretted, no matter who may have been the cause of thus corrupting public taste, that the mania should have prevailed in this country for some years past, for building Gothic castles, with "pie-crust battle-



PERSPECTIVE VIEW OF A FARM COTTAGE.—FIG. 48.

ments" and gloomily painted in imitation of dark-brown stone; or for erecting fantastical and puerile "bird cages," with gew-gaw carvings and other like follies, for the habitations of civilized beings. It is not unfrequent that we find these "erections of fancy" completely embosomed in a thicket of trees, with their walls dampened and darkened full six months in the year; and even in the country, where land is cheap and abundant, we often meet with detached cottages, built in imitation of street houses in town, with the kitchen and living room in a basement, half under ground, throwing the fumes of the scullery, or wash room, into the parlor and other apartments above. Other things, equally absurd, might be pointed out, would the limited length of this paper permit, with regard to position, ventilation, light, heat, color, incongruity of materials, and internal arrangements, which are totally incompatible with republican principles, comfort, true taste, or common sense.

The main causes of the afore-named inconsis-

tencies, are, that most of the houses in this country have been planned by persons who never have studied the first principles of domestic architecture, such as builders, carpenters, masons, bricklayers, &c.; or they have been designed by professed architects, in the common acceptance of the term, who may have turned their attention almost exclusively to the construction of public buildings, villas, baronial mansions, street houses in town; and have been reared in the rigid school of European precedent, if in any, imbued with prejudices at variance with the simplicity of our manners, our climate, reason, or sound taste.

It is unnecessary to dwell further on the moral, physical, and mechanical defects in our rural architecture, as it must be obvious to every reflecting and well-balanced mind, that serious and growing evils do exist, which loudly call for reform, and it is ardently hoped that the suggestion will not have been made in vain. And now to the immediate object before us.

In the construction of a farm cottage the chief objects to be considered, are, 1st, the number and character of the people it is intended to accommodate; 2d, the expense, or present means and prospective ability of the proprietor; 3d, the position, in regard to exposure to the sun, and in affording convenience to the out-buildings, or other parts of the farm; 4th, consistency, or congruity, so far as it is considered as an object in landscape scenery, or relates to the nature of the materials of which it is constructed, the color and finish of the exterior

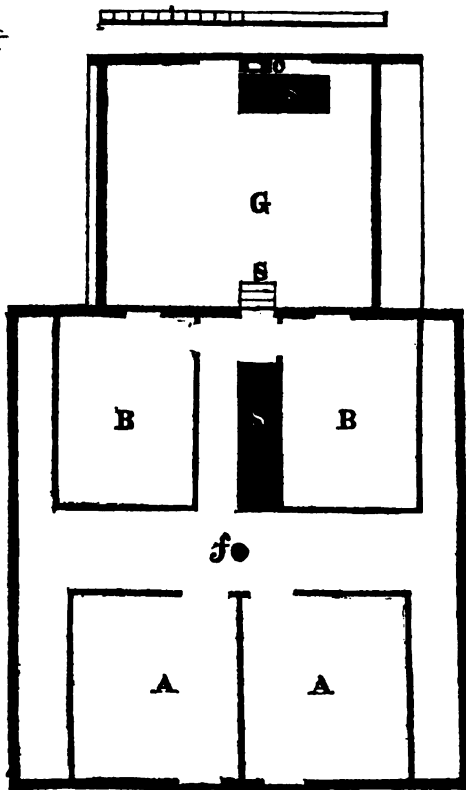
and its fitness or adaptation in promoting health, comfort, and cheerfulness to the occupants within.

Those who possess but moderate means, and are unable to erect a more costly mansion, may build, in many situations, a very comfortable and convenient dwelling, for from \$600 to \$900, agreeably to the plans and elevation denoted by the adjoining cuts.

Description.—The main body of the cottage, fig. 48, is in the form of a parallelogram, 34 feet long, including the portico, and 32 feet wide, having

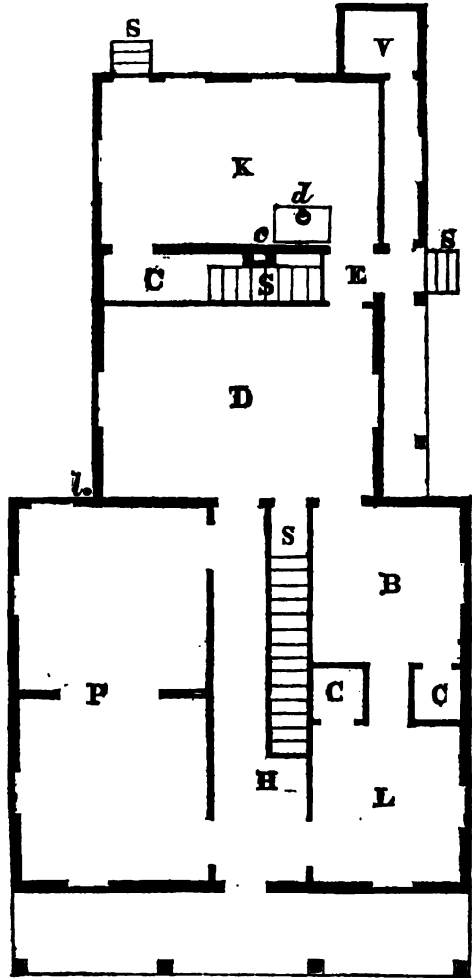
PLANS
OF A
FARM COTTAGE.

SCALE 10 FEET TO $\frac{1}{2}$ OF AN INCH.



ATTIC FLOOR.—FIG. 49.

14-foot posts, 2 feet of which extend above the attic floor, sustaining a roof of a 16-foot pitch, with the gable end facing the south or south-west. The back part of the house, which extends to the kitchen, is 18 by 23 feet, including the verandah, with 10-foot posts, supporting a roof of a 11½-foot pitch, with the gable towards the north or north-east. The kitchen is 12 by 23 feet, including the passage to the vault, with 6-foot posts and a lean-to roof having a 4-foot pitch.



GROUND FLOOR.—FIG. 50.

The whole building is designed to be elevated on a terrace, or mason work, 3 feet above the common level of the ground, to be built of wood, with the outer walls lined with bricks. The roofs, also, are designed to be built of wood, covered, either with common shingles, or water-proof cement.

On the centre of the main body of the house, a false chimney top is shown, which may be formed of metal, bricks, or artificial stone, for receiving the stove pipes from the rooms below. Those who

prefer fireplaces to furnaces, or stoves, can erect a chimney at each side of the cottage, extending their tops about 16 feet above the eaves. Between the dining room and kitchen, there is a chimney designed to communicate with the cooking range and stove in those parts of the house.

This cottage is designed to be entered from the front gate through a portico, 6 feet wide, extending across the whole width of the house. The entry of the kitchen and dining room is also designed to be passed into on the easterly side of the back part of the building, through a verandah, 3 feet wide.

The windows are all designed to be of good dimensions, and protected by wooden blinds. Towards the top of each gable end, there is a latticed window for ventilation, which may be closed at pleasure in stormy weather.

Under the entire floor of the main body of the house, a cellar is intended, with walls and arches laid in cement, to be entered by stairs from the dining room, and by a 6-foot door way, on the easterly side, from without. Beneath the kitchen, there is also another cellar, designed for storing wood, or coal, entered from the kitchen through a trap door, and likewise by a passage, on the easterly side, from out-doors. If circumstances require it, a dairy, or milk cellar, may also be constructed under the dining room, and lighted, or ventilated, by windows at each side of the house.

The whole building is designed to be protected from lightning by a half-inch copper rod, 48 feet in length, erected at the gable end near the back parlor window, and secured in its place by means of wooden props, extending from the roofs.

PLAN OF THE ATTIC.

A, A, fig. 50, denote two front bed rooms, 12 by 14 feet, entered independently of one another, from a lobby, 6 feet wide.

B, B, two back bed rooms, 10 by 14 feet, entered, also, independently of each other from the lobby at the head of the front stairs.

G, a back garret, communicating with the front part of the attic by a door at the steps S, and serves as a passage way to the kitchen and verandah, by the back stairs.

S, S, S, denote stair ways, or steps.

c, the chimney of the dining room and kitchen.

f, the stove funnel, communicating with the rooms below.

Between the wall plates and the bed rooms, spaces are left 3 or 4 feet wide, which may be found convenient for storage, &c.

PLAN OF THE GROUND FLOOR.

H, fig. 51, denotes the front lobby, or hall, 7 feet wide, including the front stairs.

P, a double parlor, 14 by 28 feet, with folding doors, communicating with the front lobby, or hall. Either, or both of these parlors might be used as sleeping apartments, should circumstances require.

L, a room, communicating with the front lobby, or hall, 11 by 12 feet, with a closet 4 feet square, and may be used for a library, office, living room, or nursery, according to the taste or wants of the occupant.

B, a bed room, designed for the head of the family, 11 by 12 feet, with a closet 4 feet square, and communicating with the library and dining room.

D, the dining room, 14 by 20 feet, communicating with the front lobby, H; the back entry, E, and the cellar at S.

K, the kitchen, 12 by 20 feet, communicating with the dining room by the back entry E, and a sliding window in the pantry C; with the wood cellar at d; and the back yard, by the steps S.

E, the back entry, 4 by 4 feet, communicating with the verandah, kitchen, dining room, and the back-garret stairs.

V, the vault, 5 by 6 feet, communicating with the verandah by a passage under cover, 3 feet wide.

C, C, C, closet, or pantries.

S, S, S, S, stair ways, or steps.

c, kitchen and dining-room chimney.

d, trap door, covering the wood-cellar stairs.

l, the lightning conductor.

The reader will bear in mind, that the dimensions of a house, built on the foregoing plan, may vary in size, or may be constructed of bricks or stone, as may best suit the taste, ability, and wants of the occupant; but the position, in regard to the sun, and the general arrangement, may be the same. A dwelling of this kind, let it be remembered, is not designed for a city, or village, where the buildings are prescribed in their limits, the architectural style of which, in order to break the monotony often observable in our larger towns, should be displayed in single and double cottages, neat and appropriate out-buildings, factories, churches, and other public structures.

For the guidance of those who have not given much thought to the subject, the following brief, though incomplete maxims on the construction of farm cottages, are offered, with a view of showing how far this important branch of rural economy has been neglected, or abused, in this country, and of calling out taste and talent for future improvement, or correction:—

1. It is recommended, that the diagonal line of the ground plan of a farm house be always in the direction of north and south, so that each of the four sides of the building may have, in the course of the day, the benefit of sunshine and shade.

2. It is preferable, that the gable end should present itself towards a public road, rather than the sides; but the position with regard to the sun should not be sacrificed for this. A detached cottage, thus located, may be advantageously seen at a considerable distance, perhaps, from every direction, offering a more pleasing appearance to the traveller as he passes along.

3. A cottage raised on a platform, or terrace, is more cheerful-looking than one, the floor of which, is on, or below, the level of the highway.

4. The grounds surrounding a farm house may be ornamented in various ways by means of trees, flowers, and shrubs, giving a beautiful effect to the landscape, and contributing, also, to the health and comfort of live stock. For instance, a sheep walk, or pasture, situated by the side of a farmery, may be so planted with scattered groups of oaks, maples, locusts, or elms, and clumps of cedars, hemlocks, and pines, as to present all the beauties of the lawn, and, at the same time, afford protection to the animals by shelter and shade. By intermingling fruit trees, flowers, and comely shrubs about the garden

and hedge rows, with a beautiful fountain of living water, in the vicinity of the buildings, will add greatly to the ornament, luxury, and comfort of every farm.

5. If fancy buildings are to be erected on a farm, different kinds of style may be employed; but in no single building should two or more styles appear. Thus, a Gothic cottage should be purely Gothic throughout; for, a structure of this sort would look exceedingly awkward under a far-projecting Italian roof. In like manner, a Swiss cottage presenting to view Grecian lines and forms, in any way, would be quite as much out of place. As a general rule, however, the appendages, or out-buildings, to a farm house should partake of the same architectural character as that of itself; but cases may occur wherein it would be advisable to depart from this rule.

6. A landscape gardener, possessing a rational and discerning taste, in making a design, will adopt such a style as will best produce a scenic effect. For instance, in a situation, backed by a rugged precipice, with straggling hemlocks, or other evergreens near by, approached, perhaps, by a rustic wooden bridge, thrown across a deep ravine, with no other dwellings in sight, a cottage built in imitation of a Swiss hermitage, would form a pleasing variety in the train of ideas that might run through the observer's mind. Again, in a location on a river bank, or hill side, with a dark back ground, and viewed at some distance from before, a structure in the form of a Grecian villa, would produce a desirable effect.

7. Costly and fantastic ornaments are considered quite out of taste in embellishing a farm cottage. A picturesque neatness and simplicity should be aimed at, rather than whimsical and childlike designs. It is not in good taste to place on buildings of this class, turrets and battlements, in imitation of pointed Gothic and old Scottish baronial edifices; nor to adorn them with painted windows, nor sacred and profane subjects, which can only be associated with the dark ages of ignorance, sorrow, and oppression. Neither is it in good taste to erect expensive columns, pilasters, and entablatures against a cottage of this kind, in the style of the temples of the ancient Greeks.

8. A wooden or mud-walled cottage, covered with a tiled or slate roof, is at variance with congruity; because the walls are constructed of less durable materials. On the other hand, walls built of brick, or stone, supporting a roof of wooden shingles, or thatch, is equally at variance with consistency and sound taste. So it may be said of rustic wooden pillars supporting solid mason work as well as of stone pillars sustaining nothing but wood.

9. The color of a farm cottage should be such as will be the most pleasing to the eye, and produce at the same time, the most harmonious effect in landscape scenery. In general, light, warm tints of various kinds, are to be preferred, such as straw color, yellow, reddish brown, lead color, and where a strong contrast is desirable with the back ground, chocolate color, or white. A safe rule to be observed by those who practice this art, is to paint every object in such a manner as will show at once

the materials whereof it is composed—whether they be wood, plaster, iron, bricks, or stone.

10. An architectural expression may be given to cottages by projecting bases and wall plates; and an architectural style may be conveyed by the forms of the mouldings in window frames, door pannels, chimney tops, &c., and in general, by the lines, angles, and forms of the windows and roofs.

11. Every cottage should contain a verandah, portico, or entrance porch, contiguous to the entry, lobby, or hall; for, a porch, or verandah, shelters the entrance from wind, snow, or rain, besides adding comfort to the interior. In constructing an open portico, or porch, the floor may be paved with tiles, or flag stones, and the ceiling, if there are rooms above, should be plastered and overlaid with mortar, or cement, to keep out the cold.

12. Verge boards, or wind skews, which are confined to the gable ends of cottages, for preventing the wind from displacing the materials of the roof, are more expressive of their object, when formed of plain mouldings, than when they are weakened in appearance by childish carvings.

13. The windows of a cottage, when made large and high, with clear glass, give an expression of cheerfulness in the interior, particularly when they rise nearly, or quite up to the cornices of the rooms, and a proper state of ventilation is produced. In order to facilitate this, the upper portions of the sashes should be made to draw downwards from the top. Latticed windows, or those having blinds, are cheerful and picturesque, but they are sometimes so constructed, as to be ineffectual in keeping out wind and rain. Blank windows are deceptive objects, at best, and are never resorted to as expedients for producing symmetry and effect by designers whose taste is governed by the dictates of reason.

14. High and massive chimney tops, in a cold climate like ours, give a cottage an appearance of cheerfulness, because they are associated in the observer's mind with the glowing grates and comfortable firesides within. They should always rise boldly out of the roof, so as to give symmetrical effect, and maintain, at the same time, a conspicuous place. As various kinds of iron stoves, grates, and ranges are manufactured, and may be had at a moderate cost, the old-fashioned fireplace is generally dispensed with, except in certain parts of the country, where wood is plentiful, and mineral coal is not to be obtained. Besides, a great portion of the heat generated in a fireplace is absorbed by the mason work, and is wasted in the open air. If a fireplace be adopted at all, it should be formed in an interior wall and in a central part of the building. *And in no case, if it can be avoided, should a door way, opening into a room, be near to, nor on the same side of the apartment with the fireplace, or stove;* for it is well established, that, a door situated so as to open hard by a fireplace, destroys, in a great measure, the comfort of the room.

15. The kitchen, which is a most important appendage to every farm house, should be large, high, well lighted and ventilated, and should be placed near by, but not under, nor directly adjoining the dining room; nor should it be placed under, or contiguous to any other part of the main body of the

house, where the inmates would be annoyed by its heat, or fumes. The kitchen floor should be covered with fire-proof materials, as metal, bricks, tiles, or stone. The kitchen, or wood cellar, should also be provided with a brick oven, and a pump and sink, with proper drains for conveying off the wash.

16. One or more pantries are requisite in every cottage, and should there be but one only, that would be most convenient between the dining room and kitchen.

17. To every farm house, one or more cellars are indispensable, which should be kept dry, cool, and well ventilated in hot weather, and warm and secure from frost when it is cold. The walls should be well pointed with mortar, and during mild and warm weather, the windows should be left open, and protected by wire-cloth skreens from the invasion of vermin, or rats.

18. Bed rooms should be entered independently of each other from a common passage, and when separate, especially when reached by a stair case, are conducive to health and habits of cleanliness. In all cases, they should be well ventilated, and if this cannot be effected by external windows and doors, sliding windows, concealed by curtains within, may be constructed in the partitions, or interior walls.

YANKEE FARMING.—No. 5.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

The Nine-Acre Meadow.—It was the first week in July, and the ruddy dawn was just beginning to streak the light clouds that lay floating in the eastern horizon, when Mr. Doolittle and his son William, each bearing a scythe, let down the two middle bars of a set of five, which mounted guard over one of his meadows; then thrusting themselves through the opening, they stood bolt upright amidst the tall grass, waving before a gentle western breeze, ready ripe for the harvest. This meadow had been in grass from time immemorial, and was the pride of my good neighbor's heart. It embraced about nine acres, and was most admirably cared for, in a manner which I may speak of hereafter. Suffice it to say for the present, that its average yield was from two to two and a half tons per acre, which, when people wanted to get on what they termed the "soft side" of Uncle Sim, they modestly stretched to three tons.

The Mowing Bee.—Upon the principle that "many hands make light work," Uncle Sim always got up a "mowing bee" when he cut this meadow, by inviting some half dozen or more of his neighbors to assist him. No one had yet made his appearance; so by way of preparation, and to try his scythe, Mr. Doolittle put in and cut down a few rods of a corner of the meadow; then pausing, set the upper end of the snath on the ground, took a handful of grass, wiped the blade clean, then with a long, flat scythe stone, which hung twisted into his leathern girdle, proceeded leisurely to whet off the wire edge. This nearly finished, he began an advisory discourse to his son.

Uncle Sim Teaches William how to Mow.—"Now, Billy, my boy, tho' I sez it, myself, 'taint 'old

foxes like me that wants tutors;' howsomever, 'him as thinks he knows most sometimes knows least;' so of all livin' things beware of consate; consate swallows a man up afore he knows it, like a snake does a frog; then there is nothin' on him left 'cept a big bunch in his belly. Wal, as I was sayin', tho' I sez it myself, nobody can larn you better about mowin' than I, Simeon Doolittle; and as you was seventeen year old last April, and have now got to be e'en a'most as big as your daddy, its time for you to be a man and take your lead in the gang among the best on 'em. I've gin two shillin' extra to get you a first-rate scythe, which is a good deal o' money ye must know, these hard times; but Simeon Doolittle don't mind that for one of his own flesh and blood. Folks can say what they like about him; all is, he b'lieves in one thing, and that is, give a boy good tools and show him how to use 'em." "When that's done," he added, lowering his voice confidentially, and pausing a moment in his scythe-sharpening, while he touched the tip of his nose with the end of his whet stone,—“show him how to keep 'em in order. Heh, Billy? Wal, my boy, this it ain't likely ye can ollous do to-day; so if things don't go right, say nothin', but come to me kind o' careless; for you know 'it's a bad workman that quarrels with his tools,' and I'll give your scythe a rub myself; then if it don't shave the hair off the grass as easy as a pig's bristles come arter scaldin', I'll say there's no gumption in whetstones at mowin' time. And, Billy, my boy, I say agin, mind what I telled ye so often last summer, when ye first begun mowin'. Stand up to your work like a man, as if ye warn't afraid on't; and don't go stoopin' down like, as if ye had predetermined to break your back; nor poke your head and arms out like a crane a lookin' for pollywogs in the mud, tirin' yourself e'en a'most to death afore half a day's work is done. No sir, my boy; this is the way to do it smooth and easy. Stand up straight, and as ye pint in with the scythe, bend your knees a little, and as the blade comes round, move the right foot gradually forward, rollin' your body in the hip-sockets like a well-greased hinge; now slightly bend your back, and as you are pintin' out, bring up the left foot and so go on; and that's the hull secret o' easy mowin'. I've swung the scythe from day-break to dusk, all day long, week in and week out, doin' nothin' else; and followin' my own advice, it never tired Simeon Doolittle yit."

Assembling of the Neighboring Mowers and Remarks thereupon.—"If here ain't Major Goodell, now, jest comin' over the hill—if I could only drive oxen as well as him. Wal, he can't out-beat me mowin', so there's some comfort in that idee. He keeps up an even swath, but then it ain't so wide as mine by jest 'leven inches. Howsomever, as I was sayin' a little pot never held so much as a big kittle, so don't think, Billy, that I'm a blamin' on him; he does as much as any other man o' his inches, and more too in drummin'. If there ain't James Jones, nephew of the Squire. What a spy feller he is; jest leaped that 'ere brook e'en a'most a rod wide, at a single jump. He's ollous talkin' chimics, geologics, rotation o' crops, and science o' breedin'. Wal, there's nothin' agin his mowin', tho' I wish he warn't quite so book larned; he and the Sargeant is forever arguin' together about some

thin' nobody knows nothin' about, 'cept themselves." "Hello," says Uncle Sim, as I leaped the bars behind his back, and hearing my name mentioned, I took the liberty of smartly slapping him on the shoulder, "you here?" "Wal, I was jest sayin'."—Never mind what you were saying; for like yourself, I can now and then quote a proverb; "listeners you know never hear anything good of themselves." "But it wasn't that, Sargeant." No, said I, you're no backbiter; so go on, and let us have the rest of your remarks. "Wal, I was a sayin', beggin' pardon o' your presence, that you and James Jones, who I'm glad is here now, are amazin' spy, and smart mowers, if you warn't quite so bookish." Oh, as to that matter, said I, there's Joe Watkins, moving lazily along the road here, who can scarce read at all, so you may have him to balance the account. "Yes, he is a lazy feller to walk, and not very bright in the upper story, nother, that's sartin; but somehow or other, Sargeant, you, nor nobody else mows round him, bright or cloudy. It is marvelous what a simple critter he is; and yet, if anybody ever cut a little too close to my heels for comfort, it is that 'ere same dummy, Joe Watkins. If there ain't Captin' Truck, and that 'ere great big nigger, Cesar, he brought all the way from old Virginny with him, cause he is sich a good cook and sailor. He'd a better took him to Africa to settle, I guess. Wal, he beats all our folks a cradlin', that's a fact; and I'll acknowledge when we mowed together afore, his swath was an inch and a quarter wider than mine; but then he lops in and doesn't pint out clean, which is some loss in a hay crop, and makes the meadow look kinder ragged arter it's raked over. As for the Captin', I never see him swing a scythe in my life; but if he mows equal to that 'ere big gobbler, he sold me last winter, then he'll be the first man that ever out-mowed me. That Tom turkey, Sargeant, is a little the greatest feller I ever had in my yard; and sich lots o' chickens as we've got! But here's all seven on us now, besides Bill; and as the sun will soon be up, and I know by them yaller, streaky clouds in the east, it's goin' to be fiery hot, we'd better set in; so who says for finishin' the nine-acre lot of Simeon Doolittle's by dinner time? But afore we begin, men, jest hear me. I'm not one o' them that wants his grass cut so very short as some does. It's an old sayin' I know, 'that an inch at the bottom is worth two at the top.' Wal, now, accordin' to my notion, that depends on circumstances. 'Tis all very well when the grass isn't yet ripe; but I don't b'lieve in cuttin' unripe grass. I wait o'ulous till it begins to shed its flowers, and is not only done growin', but the bottom o' the grass has got kinder hard. That's the best time for cuttin' accordin' to my experience and my father's afore me; and then an inch at the top is worth two times two at the bottom. Cut the grass even—leave the dry part to shade the ground, to rot, and to manure the crop another year, that's the way to suit me."

We Commence Operations.—As this appeared sound doctrine to the rest of us, and no one having anything to say against it, Uncle Sim commenced at once with a stroke that showed he was no boaster, while one after another all rapidly followed his lead, Bill bringing up the rear in a style

worthy of his gifted sire and instructor. Nothing in particular occurred till six o'clock, when Aunt Nabby blew the horn for breakfast. This over, away we went to work again, all hanging back a little when Bill led, in order to favor him; but when Uncle Sim, or the strong, long-armed Cesar headed the gang, we made the grass all smoke again.

The Morning Lunch.—The day had not belied Uncle Sim's prediction, for, by ten o'clock, it proved excessively hot. This, with the rapid rate at which we had worked, began to tell upon our exhausting frames; when right glad were we to espy the gentle Molly—her pretty face well shaded by a large sun bonnet—tripping down the meadow, bearing on either arm a good-sized basket, which she deposited at the foot of a large old oak, that threw its wide, thick branches for many a yard around, forming a grateful shade under which to repose and take our lunch.

"Come, neighbors," said Uncle Sim, throwing down his scythe, "'an empty bag don't stand up straight;' no more does an empty stomach. We've put the best part o' the grass now where it'll soon make hay, so turn too, and let's take a bite to freshen up agin."

We did not wait for a second summons; but instantly followed Mr. Doolittle's example, and were all soon seated under the old oak. The lunch consisted of sweetened dough nuts and cheese, bread and butter, and thin slices of cold ham, all nicely cooked and prepared by Aunt Nabby herself, in a manner that few could equal, and none excel. The drinks were various and such as we had been indulging in all the morning; for we had found it thirsty work, and the perspiration flowed out of us like water.

Uncle Sim took a long sip from a large, square, black case bottle, and as he set it down, smacked his lips, and gave an approving wink to Captain Truck, declaring "there was nothin' like 'lasses and water, stirred up with jest cider brandy enough of his own partikerler distillin' to cool the throat, and make an old feller, like him, feel kinder spy when it touched the bottom o' his stomach." To this, Captain Truck gave an assenting nod; but tasting from a stout, brown, earthen mug, into which he had most assiduously been pouring various liquids, "he was of opinion, as he had so often had his fill of molasses in the West-India trade, that part of Uncle Sim's mixture was all the better for being first boiled over into good old 'New England.' With plenty of this to grease his log, he could give any man on the ground a knot the start headway in mowing, and run him hull down afore meridian." Major Goodell "considered nothin' tightened him up like sweetened milk and water, spiced with a spoonful of ginger to keep from gittin' gripped by the choleric." Cesar waited till the Captain had got through, and then received from his hand a second edition of the brown-mug mixture, which he gulped down with undiagnosed satisfaction, declaring that "Massa Captin' warn't no possum, no how, and could go it with a fit a leetle better than raal old Varginny." Joe Watkins refused Uncle Sim's proffered black bottle, and to his repeated invitation to "help himself—take sumthin' good now, that'll make ye strong," he

briefly replied, "since signin' the temperance pledge, it was good enough for him to drink with the Sargeant." He then came over to our side, where Molly had taken good care to place Bill. Each one of our party now took a large Japan tumbler, which he filled from a three-gallon stone jug, of fresh cold water, sweetening with brown sugar to his liking, and then adding a little sharp vinegar. This, Mr. Jones and myself, from several years' experience, recommended as the next best thing, after lemonade, we had ever tried to quench a burning thirst.

Fifteen minutes having been devoted to the lunch, up we all jumped, with renewed vigor, defying the increasing heat, and away we went at the grass again. At noon, precisely, Aunt Nabby appeared on the verandah, in front of the old house, and blew the horn for dinner; but there still being a small patch to cut, a simultaneous shout arose from all save Uncle Sim and Bill, of "let us finish the meadow before eating again." No objection being made, our scythes swung in the air like the rapid flashing of swords from the scabbards of a troop of cavalry, and in less than another half hour, the nine-acre task was finished.

The Dinner.—This was capital, consisting of the nicest of bread, both brown and white; baked pork and beans; fried ham and eggs; fresh roast beef, and boiled mutton; with bountiful dishes of new potatoes, green peas, squash, and beets, topped off with a delicious minute pudding.

Aunt Nabby and Molly waited upon the table, anticipated all our wants, and seemed highly gratified at the rapid disappearance of their well-cooked dishes. In discussing among us what was the best meat for hard-working men, the Captain went in strongly for the roast beef and boiled mutton, pretty bluntly adding, that fried eggs were very good, but as for the salt ham that accompanied them, the day and the work were already thirsty enough without eating that to increase it; and as for fat pork, it was fit for neither Jew nor Christian in hot weather, nor cold either, as to that matter, if a man could get anything else. In this opinion, however, his humble follower, Cesar, did not seem to coincide; for, sitting by himself at a side table, he had not only made a marvellous inroad into a considerable pot of baked beans—that he seemed greatly to relish, swimming as they did in fat—but had also shaved slice after slice from the bountiful pork piece, which, since the Captain's remark, fearing he might lose entirely, he transferred bodily to his plate, and soon made away with in cubic-inch chunks, to the great wonderment of our obstreperous ship master.

The Nooning.—Dinner over, Uncle Sim concluded, that as the grass lay so thick upon the ground, it would be a good hour and a half yet before dry enough for raking, we might therefore spend the time in a "nooning." So each proceeded to accommodate himself for a nap, according to his own fancy. The Captain hauled down from the beam overhead a horse blanket, and taking a coil of rope for a pillow, stretched himself at full length in the verandah. Uncle Sim, after proffering a Buffalo robe to us all round, which was declined, took an old saddle for his head piece, and joined the Captain. The Major interlocked the fingers of his

two hands over his breast, and sitting down with his back and head bolt upright, near Mr. Doolittle, was almost instantly fast asleep. Joe couched upon the bare floor, and laid his arm across his old hat, with his head on top of that; while Cesar, bare-headed, stretched himself on the ground, flat on his back, right in the face of the scorching sun. Uncle Sim regarded the black for a moment, with his cocked eye askant, then dryly remarked, 'Wal, Mister Coal Tar, it's all very well your head ain't taller, to-day, or it would soon be meltin' hot,' and joined in a concert of snoring with the Captain.

As for Mr. Jones, Bill, and myself, we adjourned to the shade of the old oak, took up sufficient half-wilted grass to make each a good bed, on which we couched, and set ourselves to studying glimpses of the clear, deep blue sky, which we caught opening now and then between the slight rustling of the thick-canopied leaves.

Ye gods, what a bed! And is there anything equal to it? The hot sun and the fatigue which makes rest so delicious; the quenched thirst; the satisfied appetite; the fragrant hay, with its elastic yielding to the slightest pressure of the body; the grateful shade, and the balmy air—all tend to make

Other occupations may have superior enjoyments, but if so, I know them not, nor do I desire to. Give me those of the industrious, intelligent, and independent farmer, the world may have all else of which it can boast.

SEARGEANT TELTRUE.

RAISING OF CABBAGE AND TURNIP SEED.—The great object in raising cabbage or turnip seed, is to place the plants where there will be no danger of being impregnated with the farina of any other of the cabbage or turnip tribe. A few good plants of one variety, should be selected and planted in the spring, in an open spot, by themselves, where they may run to seed. No more than one sort, let it be remembered, can be safely grown in the same garden.

IMPROVED METHOD OF MAKING CHARCOAL.—A mode of manufacturing this substance, in France, is to fill all the interstices in the heap of wood to be charred, with dry, powdered charcoal; then cover the whole mass with earth or sods, and burn it the usual way. By this means, much of the access of air is prevented, and a saving of ten per cent., in volume, as well as weight, of charcoal will be gained over the ordinary modes.

HOW TO MANAGE A KICKING COW.—Take a piece of rope about two feet in length, and tie, or splice, the two ends together so as to form a loop. Double up, by bedding, the fore leg of the milking side of the cow and slip the loop over her knee. By this means, she will necessarily have to stand on three legs and will not be able to kick.

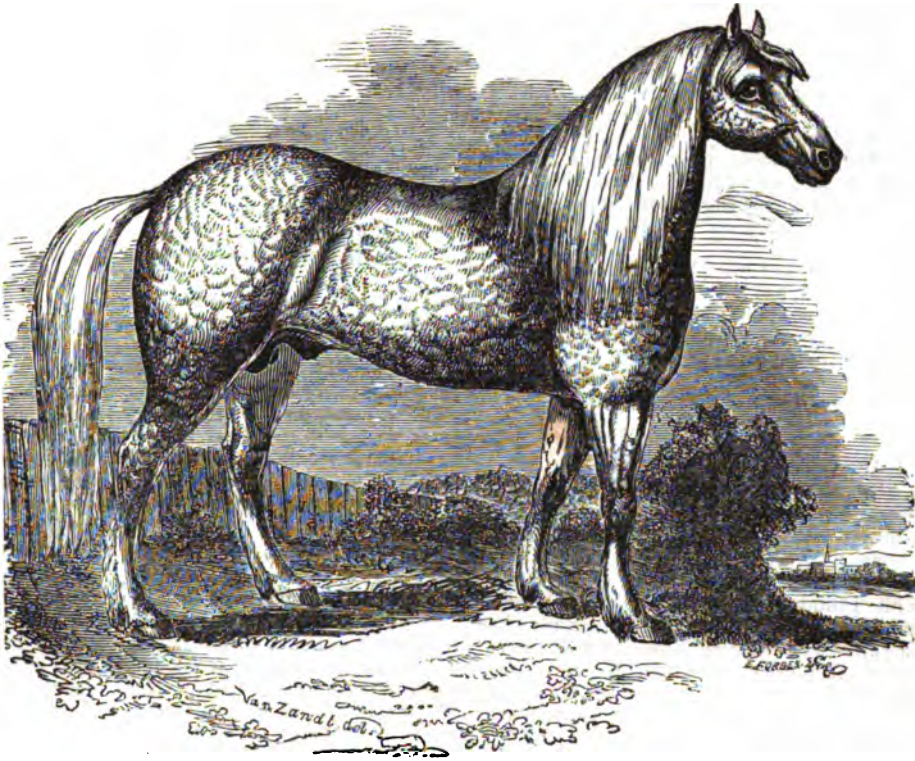
HOW TO PRESERVE EGGS.—Take 8 quarts of unslacked lime, $\frac{1}{2}$ lb. of common salt, 2 ounces of cream tartar; mix in water so as to bear an egg with its top just above the surface; pour the mixture into a water-tight cask containing the eggs, and they will keep sound and good for two years.

THE NORMAN HORSE.

THE following is a portrait of the Norman horse, *Louis-Philippe*, the property of Mr. R. B. Howland, of Union Springs, Cayuga county, N. Y. He was foaled on the 15th of July, 1843, is of a beautiful dapple grey, stands upwards of fifteen hands high, weighs about 1,200 lbs., is reasonably quick on foot, and of great substance and endurance. He was bred from the imported stock of Mr. Edward Harris, of Moorestown, N. J., a history and description of which, together with a portrait of *Diligence*, the sire of *Louis-Philippe*, may be found at page 209, of the third volume of the *Agriculturist*.

When Mr. Howland was in France, he often rode after the Norman horses in the stage coaches

of that country, and witnessed their performances on the farm, and was favorably impressed with their great strength, hardiness, and endurance, coupled with sufficient activity for all the purposes of the farm and the road. He informs us, that he has frequently seen a team of five of these horses hitched to the great lumbering French *diligence*, which, with its luggage and passengers, would weigh at least five tons; and this, they would take along the road with ease, at the average rate of seven miles an hour. It is true that the roads are well McAdamized, and of course, hard, and smooth; but for a team of horses to draw an average weight of one ton each, at the rate of seven miles, or more, an hour, without distress or even ap-



THE HORSE—LOUIS-PHILIPPE.—FIG. 52.

parent fatigue, to the end of a stage of fifteen miles, is a great performance, and they must be superior animals that can do it.

The origin of the Norman draft horse is of great antiquity; but the more modern Norman is said to have been improved and made the superior animal he now is, by a cross with the Andalusian, introduced into France through the Netherlands soon after the occupancy of that country by the Spaniards in 16—. We are informed that they are now attempting a still further improvement, by a cross with the stout English hunter.

The Norman horse is the origin of the French Canadian. Here, however, he is somewhat reduced in size, owing to his scanty fare and the severity of the climate. But he has gained, we think, in fleetness and hardiness, while he has lost nothing

in endurance and that indomitable energy, which enables him to do more, perhaps, on the same food, than any other breed of farm stock in North America.

We commend Mr. Howland's purchase to the attention of the farmers of his district, as well calculated to get a superior breed of hardy, strong, docile draft horses and roadsters.

ROTATION OF CROPS IN ITALY.—In the vale of Loreto, in the vicinity of Mount Vesuvius, the rotation of crops is as follows:—1, Indian corn; 2, wheat, followed by beans, which ripen in March of the third year; 3, cotton; 4, wheat, followed by clover; 5, melons, followed by French beans. Thus, in five years, producing eight crops.

Ladies' Department.

HOW TO CLEAN SILVER PLATE.

WELL-KEPT silver plate seldom requires more than to be washed every time it is used, with a swab, or soft brush, in strong soap suds. Soft soap is best. Rinse the article in clean, soft, hot water, and wipe dry, while hot, with a linen towel, after which, it must be well rubbed with soft goat skin. If it has become dull and greasy looking, after washing and wiping, clean it well with a piece of flannel, wet with spirit, or common whiskey, dipped in powdered chalk, or whiting. Let this dry, and then rub it off with a soft, dry brush, taking care to clear it out of the engraved lines, and then polish with soft leather.

The insides of coffee and tea pots must be scoured frequently with wood ashes and soap suds. Forks and spoons should be cleaned daily with dry whitening only. The stains made upon these, by boiled eggs, can easily be removed by rubbing the spots, with table salt, while wet, after washing in warm water. The black spots upon castors, saltcellars, &c., may be taken off by rubbing them with flannel wet with spirits of hartshorn, and dipped in powdered magnesia; when dry, rub off with a brush and leather.

Silver filigree, and frosted ornaments, that have become tarnished, and are too delicate to be cleaned in the common way, should be soaked for a few minutes in one part spirits of hartshorn to two parts water; then rubbed very gently with a soft leather, afterwards dipping them in hot water and drying them with a cambric handkerchief. E. S.

Eutawah.

HOW TO MAKE DOUGH NUTS.

YOUR friend "Reviewer," expresses so feelingly his disgust for "badly-fried nut cakes," one would think them *almost* as disagreeable as "dried cabbage leaves." Although we Pennsylvanians never eat "dough nuts," as we call them, except in winter, while I think of it, I will give you my recipe for making them, and it will be ready for use when the time arrives for wanting them. If "Reviewer" does not think it too presumptuous for me to send it, or any such, to your "land o' cakes," we shall be glad to have him come to our cottage next Christmas and partake of them.

Recipe.—Take 3 pints of sweet milk, 1½ lbs. butter, 6 well-beaten eggs, 1 tea-cupful of good yeast, 1½ lbs. clean brown sugar, and spice to your taste. Warm the milk and mix it with the eggs; then stir in the flour, which should also be warmed; heat the butter and pour it over the dough, *hissing hot*, and work it well in; then add the yeast (brewers' yeast is best, and can always be got in winter), and work the mass until the hands come out clean. Set it to rise in a warm place; and when light enough, have ready a broad, shallow boiler, half filled with boiling lard; cut off from the dough, pieces about an inch and a half each way, in a lozenge, or diamond shape, and drop them into the lard. When of a light brown, and puffed out on both sides, they are done; take them out with a skimmer; drain them on a colander; remove them to broad dishes, and sprinkle them, while hot, with

pulverized loaf sugar. Pure lard will not bubble when boiling hot, and must be tried by throwing into it a small piece of the dough; when, if at the boiling point, bubbles will instantly form around it. E. S.

EARLY RISING.

A FEW days ago, I found in an old commonplace book, an amusing account of the domestic habits of the royal family, and nobles of the court of Henry II. of France, from which I send you the following extract and free translation, as giving a curious picture of the division of time in the twelfth and thirteenth centuries, and making a good comment on my oft-repeated homilies on the advantages of early rising, at that day not thought vulgar, and fit only for farmers:—

*"Lever à cinq, dîner à neuf,
Souper à cinq, coucher à neuf.
Fait vivre ans nonante et neuf."*

*To rise at five and dine at nine,
To sup at five and sleep at nine,
Will make one live to ninety-nine.*

Upon this, the old English proverbial jingle is an improvement, as promising better things to early risers than old age alone.

*"Early to bed, and early to rise,
Will make a man healthy, wealthy, and wise."*

E. S.

How to REMOVE RUST FROM FINELY-POLISHED STEEL.—Rub the spots with any kind of soft animal fat, and lay the articles by, wrapped in thick paper for two or three days; then, after cleaning off the grease with a piece of soft flannel, rub the spots well with powdered rotten stone and sweet oil, after which, the polish may be restored by rubbing with powdered emery on a soft leather; and the process may be finished with finely-powdered chalk, or magnesia.

To MAKE A PLEASANT COSMETIC SOAP.—Shave a quarter of a pound of old Castile, or palm-oil soap into soft, hot water enough to cover it; boil and stir it quite smooth; turn it into an earthen bowl, and, while hot, stir in enough Indian corn or bean meal, to make a thick paste; add an ounce of oil of almonds, and some oil of lavender, rose, or other agreeable perfume; cover it closely in small China toilet boxes, or jars, and put one on every wash-stand.

To MAKE COLD CREAM.—Melt in an earthen pipkin, over a very gentle heat, a quarter of an ounce of white wax, and as much spermaceti; add, while hot, an ounce of the oil of sweet almonds; pour it into a bowl, and stir it until it becomes smooth and quite cold, adding gradually, drop by drop, a large table-spoonful of distilled rose or lavender water. This is particularly good for the hands, rendering the skin soft and pliant.

To DESTROY FLIES.—Mix in a saucer, a table-spoonful of cream, half as much ground black pepper, and a tea-spoonful of brown sugar. This will attract and kill flies without danger of poisoning children. E. S.

Boys' Department.

AGRICULTURAL CHEMISTRY—No. 3.

Boys, in my last letter I told you that the essential constituents of the atmosphere were oxygen, nitrogen, carbonic acid, ammonia, and watery vapor. These were all particularly described, except the last, and this I told you was a compound of oxygen and hydrogen, the two gases that form water. Hydrogen derives its name from two Greek words which signify *generator of water*. It is sixteen times lighter than oxygen, and fourteen times lighter than atmospheric air, and on this account it is often used for charging air balloons. These, when filled with hydrogen, rise on the same principle as smoke in air, a cork in water, or a leaden bullet in quicksilver.

Hydrogen is an inflammable gas, and burns with a blue flame, as you may observe in the lower part of the blaze of a candle. When ignited, it unites with a portion of the oxygen of the atmosphere, and the parts, thus combined, form water. This combination is always in the proportion of *one part*, by weight, of hydrogen, with *eight parts* of oxygen, or *two to one* by volume, and if these two gases were united in any other proportion, they would not produce water. It will be well for you to remember, that substances composed of the same elements, but in different proportions, often have quite different, and sometimes quite opposite characters. The following is an instance of this sort:—Sugar and starch, although differing widely in their appearance and general properties, are composed of precisely the same ingredients; namely, oxygen, hydrogen, and carbon; and the only difference is, that starch contains about one tenth less of hydrogen and oxygen, than sugar.

When hydrogen is burned, the water produced is chemically pure; but it is never thus found in nature. You know that water has the power of dissolving common salt, and many other substances, when brought in contact with them; and as there are always soluble substances in the soil, the water of springs and brooks must hold some of them in solution; consequently, the water of every spring, or rivulet, will be influenced by the soluble ingredients contained in the earth where it is located. But, you will now ask, is the water which falls from the clouds, chemically pure? Rain water is, indeed, much purer than spring water, and on this account, it has a more insipid taste; yet it is not chemically pure. You recollect I told you, when speaking of the ammonia of the atmosphere, that it was very soluble in water; therefore, it is always present in rain water. Carbonic acid is also brought from the air by every shower, as well as a portion of the air itself. You perceive, then, that water is capable of dissolving the ingredients of the air, as well as those of the soil, and you will hereafter learn in what manner vegetable existence is benefited by this solvent action. You are aware that spring and well water is sometimes said to be *hard*; that is, when it will not form a lather, or *suds*, with soap. This is owing to its containing a portion of sulphate of lime (plaster of Paris), which it has extracted from the earth, and which

forms, with soap, an insoluble chemical compound. Another peculiarity of water, is, that it sometimes forms incrustations, such as you may have observed on the inner surface of tea-kettles, which have been some time in use. This is formed chiefly by carbonate of lime (carbonic acid and lime combined), and may be accounted for as follows:—The more carbonic acid water contains, the greater quantity of carbonate of lime it will dissolve. When water is heated, carbonic acid is driven from it, and consequently, the carbonate of lime, which was held in solution by this acid, falls to the bottom, and adheres to the vessel, forming in time, a thick scale, of crust.

You are now sufficiently acquainted with the chemical properties of water. I will, however, while on this subject, explain a few more properties belonging to it, as matters of curiosity, and as useful additions to your stock of general knowledge.

Steam, produced from water, by heat, fills a space about 1,700 times greater than the water from which it was formed, and is about half as heavy as the same volume, or bulk of air. This wonderful expansion has been taken advantage of for propelling machinery, and you may form some idea of its mighty force, from its power of setting steamboats, locomotives, &c., in motion.

Water, at the level of the sea, boils when raised to the temperature of 212° , and in an open vessel, no additional heat can raise its temperature above this point. (a) When passing into a gaseous state (that is, steam or vapor), it absorbs a large portion of heat, which remains in the vapor until it is again condensed into water. You may have noticed, that, when the ground is covered with snow, the air always feels chilly, although the sun may shine very pleasantly. This chilliness is caused by the absorption of heat while the snow is melting and evaporating; and in like manner, heat is absorbed and given out by all other substances, when passing from one state, or condition, to another. This general property of bodies may be thus explained: *When a body is passing from a denser (thicker), to a rarer (thinner), state, heat is absorbed; and when passing from a rarer to a denser state, heat is evolved (given out).* The reason why the weather moderates during a snow storm, is, because the heat contained in the vapor is liberated, and given to the air, when the vapor condenses into snow. This principle also proves (what every sensible and observing person is well aware of), that there is more economy in using dry wood, than green, for fuel. The latter usually contains nearly one third its weight of water, which, while the wood is burning, must be converted into steam. A cord of green wood is estimated to contain, generally, about 170 gallons of water; therefore, when burned in this state, as much heat is lost—*absolutely lost*—as would be carried away in the steam from the same quantity of water, if it were boiled away in kettles!

Were it not for this heat-absorbing power of vapor the warmth of summer would be insupportable, and every change of atmospheric temperature would be a source of misery. The following explanation will convince you of the truthfulness of this assertion. You know that, when ether, or alcohol, is dropped on the hand, a sensation of cold

is felt; this is because they evaporate very rapidly, and (in passing to a rarer state), abstract heat from the skin. If the evaporation were slower, just as much heat would be carried away, though we should not, of course, feel it so sensibly. Now, during warm weather, or when we are heated by exercise, perspiration flows freely from every pore, and as this is constantly evaporating, it takes the super-abundant heat from the system, and thus we are enabled to endure even a very high temperature with but slight inconvenience.

Another remarkable fact connected with this subject, will close this communication. It is a law of nature, applicable to all matter, that bodies are expanded by heat, and contracted when cooling. When the air of a room is heated by a fire, that portion which is highest, will always be found to be the warmest, the heated air rising in consequence of being made light by expansion. The same is true of water, which is always found to be lightest nearest the surface. Now the question presents itself: *Why is not ice first formed at the bottom?* The reason is, because an All-wise Creator has otherwise ordained. Nature has been closely interrogated by chemists, and on this point they inform us that water, when approaching the freezing point (32° above zero, of Fahrenheit's thermometer), condenses until within seven or eight degrees, or at 39° or 40° above zero, and here the condensation ceases, and expansion follows until the temperature descends to the freezing point. That portion of water, therefore, which first reaches the freezing point, is rarer and lighter than that which is not so cold, and consequently will rise to the surface. Here, then, we have an exception to the law of nature just mentioned, and for a very wise reason. (b) If it were otherwise, ice would then form first at the bottom, and in large collections of water, more would be frozen in the winter, than could be thawed in the summer. Our lakes and rivers would be changed to solid ice, and soon "the face of nature would be transformed into a frozen chaos." Thus science is continually unfolding additional evidences of the agency of Omnipotence in the contrivance and regulation of all the mechanism of matter; and when scrutinizing the machinery of nature, and admiring the wonderful skill displayed in all its parts, we should never lose sight of the Supreme Architect of all. J. MCKINSTRY.

Greenport, N. Y., May 1st, 1848.

(a) In removing the pressure or weight of the atmosphere, by producing a vacuum, or ascending high hills or mountains, water will boil at a somewhat lower temperature than 212° . Thus, on the Peak of Teneriffe, water boils at 192° , and at the top of Mont Blanc it boils at 183° .

(b) Our correspondent has probably forgotten to tell us that there are other exceptions to this law, as it is a well-known fact that iron, antimony, and bismuth expand in passing from a fluid to a solid, or crystallizable state, as well as water (ice). These three metals, after being melted, expand instead of contracting, in becoming solid. Hence, a piece of cast iron, thrown on the surface of melted iron, will float, showing, that, it is more expanded, or lighter, in the solid than in the fluid state. This is a useful property of iron; for, in consequence of

it, when it is cast in a mould, its expansion makes it fill the mould, and receives an exact impression, while other metals, which contract in becoming solid, do not take the form of the mould so completely. Antimony, from having the same property, is used to form part of the alloy of which printers' types are made. If gold and silver had the same property, in this respect, coin might be made more readily than at present, by casting; but these metals contract in becoming solid, and therefore, would not take a distinct impression from the mould, which effect it is necessary to produce by means of a stamp or die.

ANECDOTES OF ANIMALS, No. 3.

A good horse story was told to me a short time ago, by a gentleman who was an eye-witness of the occurrence, which, if we will not call it an effort of reason, was at least one of memory of not a very common kind.

A man in the western part of the state of Ohio, purchased a remarkably fine horse from a person who lived about thirty miles from his residence, and rode him to his future home, where he lived an easy and a happy life—turned out into rich pasture when not wanted for use. The only service required of him, being to carry his kind master daily in his rides around the neighborhood. In short, no horse could be more fondled and caressed, nor do less to earn a livelihood.

When he had lived there about six years, he was one day feeding near the house, cropping the rich grass and curvetting in the fullness of animal spirits, when his master observed that he stopped suddenly, and stood perfectly still for several minutes, looking as if he was debating some important question in his own mind. He then, as suddenly pricked up his ears, raised his tail, and started off at a brisk trot on the road leading to his former residence. As he did not return, he was followed and easily traced to his old home, where he had safely arrived, and taken possession of his former quarters in the stable, seemingly much pleased with the whole adventure.

Eutawah.

E. S.

COMPARISON OF SPEED.—A French Scientific Journal states that the ordinary rate per-second, of a man walking, is 4 feet; of a good horse in harness, 12 feet; of a reindeer, in a sledge on the ice, 16 feet; of an English race horse, 43 feet; of a hare, 88 feet; of a good sailing ship, 14 feet; of the wind, 82 feet; of sound, 1,130; of a twenty-four-pounder cannon ball, 1,000 feet; and of air, in re-filling a vacuum, 13,000 feet.

INFLUENCE OF CLIMATE ON THE LONGEVITY OF PLANTS.—It is an interesting fact, perhaps not known to all, that some trees and plants, cultivated as annuals in one country, become biennial, or perennial in another. For instance, the tree cotton (*Gossypium arboreum*), in the West Indies, continues for five or six years; whereas, in our southern states it is only an annual. In a similar manner, the castor-bean plant (*Ricinus communis*), within the tropics, attains the size of a tree, or shrub, 12 or 15 feet in height, of several years' standing, but with us endures only for a few months.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Cambria, we are in receipt of our foreign journals to the 29th of April.

MARKETS.—*Askes*, more enquiry. *Cotton*, a still further depression of $\frac{1}{4}$ d. per lb. *Flour*, *Grain*, and *Rice*, a small advance. *Naval Stores*, dull. *Tobacco*, brisk. *Wool*, steady.

Money continues at a low rate, but can only be had on the best security.

The Weather was rather unpromising, being cold and wet.

Guano Destructive to the Wire Worm.—Amongst the communications lately sent to the Council of the Royal Agricultural Association, was one from Mr. Dickinson, on the application of volatile alkali, as it exists in guano, for the extirpation of the wire worm.

Hussey's Reaping Machine.—Mr. Hussey, of Baltimore, has requested that his reaping machine may be subjected to trial, in England, under the orders of the Royal Agricultural Society, which request has been granted.

How to Fix the Ammonia in Urine.—The best way of fixing ammonia in urine, is said to be by the use of crude Epsom salts (sulphate of magnesia); its action is to throw down the triple compound of phosphates of lime and magnesia, while the sulphate of ammonia remains in the solution.

Cause of the Gapes in Poultry.—The cause of this disease is stated to be the use of filthy, sour diet, and drinking from dirty puddle water, infected with putrid decaying substances. The symptoms are gaping, coughing, and sneezing, dullness and inactivity, ruffled feathers, and loss of appetite.

New Work on Farming.—It is stated in the Gardeners' Chronicle that upwards of twenty of the best agricultural and scientific writers of the day are engaged, each in his own department, in writing a complete treatise on farming, to be commenced in monthly parts, sometime in the coming autumn.

Spanish Hens' Eggs are advertised for sale in London at 6s. per dozen. The hens, by which they were laid, were imported last autumn from Andalusia. They are represented as beautifully speckled, and much superior to the Spanish black hens, being unequalled as layers, both in the size and number of the eggs.

Remedy for the Potato Disease.—Dr. Klotzsch, of Germany, it is stated, has succeeded in preserving potato plants from disease by the peculiar method described below. He attempts to show that, as the potato is cultivated for its tubers, there is a great loss of nutrient matter if it be allowed to form flowers and fruit; and he concludes, that if this be prevented, the nutrient matter will be sent in the direction of the tubers and roots, and thus the plant will be strengthened and enabled to resist disease. He proposes, therefore, when the plants are from 8 to 9 inches above ground, to pinch off the ends of the stem and branches for half an inch only downwards from the point, and to repeat this four weeks later. In the experiments already made by him, in which the alternate rows were treated in this way, the result was, that the rows not so treated were straggling and sickly, and had scabby tubers liable to rot; while the rows so treated were bushy, luxuriant, dark-green, with very numerous tubers, clean, and free from all disease whatever.

Ellerman's Deodorizing Liquid.—Mr. Tower, of Weald Hall, lately called the attention of the Council of the English Agricultural Society, to the good effects he had found to arise from the use of the deodorizing liquid of Mr. Ellerman, the component parts of which, according to the analysis he submitted to the council, could not, he thought, but render the use of this pre-

paration valuable as an agricultural as well as a deodorizing agent.

Mr. Ellerman's fluid, it will be recollected, is very efficacious as a means of destroying the odor of night soil, and other similar substances. It possesses, also, this advantage, that, while it neutralizes the odor so as to admit of the soil being removed, at any time, without creating a nuisance, it does not in any degree interfere with the efficacy of such matters as manures. On the contrary, it rather tends to increase the fertilizing quality. It is also stated that this fluid possesses a greater power than any agent invented for destroying the smell of fecal matter, and leaving in the end only a slight acid odor.

Chicken Hatching in Egypt.—It is well known that there are immense numbers of double ovens for hatching chickens, both in Upper and Lower Egypt, called in Arabic *makhmal*s. The number of these establishments has been estimated to be 164; whole number of eggs used, 26,204,500; number of eggs spoiled, 8,785,327; and the number of eggs hatched, 17,418,973. It is stated that each *makhmal* receives about 150,000 eggs during the time it continues open; say two or three months in the year, one quarter, or one third of which generally fail. One chicken is usually given for every two eggs received.

The eggs are first heated in the lower oven to a temperature of about 106°, for the first 10 days, and then for 11 days more in the upper oven, from which the fire has been removed; on the 21st day, the chickens come out. During the time of incubation the mouths of the ovens are kept well closed.

Exhibition of the Soci t  centrale d'horticulture, heretofore Soci t  Royale.—The annual show of this society was held at Paris on the 23d of March and three days following, at the grand gallery of the Luxembourg Palace, under any but auspicious circumstances. For at the very moment I was looking at the flowers, some thousands of persons were congregated in the gardens of the Luxembourg, almost close under the gallery, shouting the "Marseillaise"; but all this is now looked for as a matter of course, and no one thinks anything about it; even on Wednesday and Thursday, in the height of the revolution, all the theatres and places of amusement were as much crowded as at any other time.—*Paris Correspondent.*

Common Salt as a Manure.—Mr. J. B. Lawes, of Rothamstead, expresses his full belief, in the Gardeners' Chronicle, that salt can never be a substitute for the constituents ammonia and phosphoric acid; that no soil exporting corn and meat can be restored to fertility without the application of these two substances; that much of the money now expended in purchasing salt for agricultural purposes would be more profitably employed in procuring ammonia and phosphates; that salt, although apparently essential in the animal economy, and perhaps in that of plants also, is exported from a farm in such small quantities that many soils will, under an ordinary system of cultivation, never require its direct application, and others will do so seldom, and to a small extent only.

Interesting Physiological Fact in Relation to the Composition of the Horse.—By comparing the blood extracted from the different breeds of horses, it has been proved by the French chemists that their composition is naturally different; that from the thorough breeds, when exposed to natural decomposition, exhibits less serosity, or serum, than that of other breeds, and consequently the solid, or coagulated part, is in greater proportion; it contains also saline substances in greater abundance, and of a different quality. This blood, too, exposed to the air, retains its fluidity longer than any other, and does not give out a fetid odor like that of other horses.—*Exchange Paper.*

Editor's Table.

REMOVAL.—A. B. Allen & Co. have removed from No. 187 Water Street, to the two buildings adjoining above, Nos. 189 and 191, where they will be happy to see their friends and customers as usual. Their warehouse is now double the size it was before, being 44 feet wide, 70 feet long, and five stories high. It is stocked with the largest and most complete assortment of Agricultural Implements, and Field and Garden Seeds, ever yet offered to the public.

TIME OF HOLDING THE SHOW OF THE NEW YORK STATE AG. SOCIETY CHANGED.—We are requested to state that the next show of this society will be held at Buffalo on Tuesday, Wednesday, and Thursday, the 5th, 6th, and 7th of September. Further notices, embracing the conditions of the show, will seasonably be given.

STATE OF VEGETATION IN NEW YORK.—On the 25th of April, the apple and pear were in full blow, and the European linden was just bursting its leaves. May 1st, the elm in leaf, the lilac in flower, and the Paulownia nearly ready to open its buds. May 12th, the horse chestnut and paper mulberry in flower, the alantus, locust, and sycamore unfolding their leaves, and the pear nearly out of bloom. On the 20th, the blossoms of the apple had quite disappeared.

ORANGE COUNTY MILK AND BUTTER COMPANY.—We would call the attention of our city subscribers to a milk and butter depot, lately established at the corner of Reade and Washington streets. Pure milk and choice butter is punctually furnished directly from the best dairies of the several counties, through which the New York and Erie Railroad passes. Price of milk delivered to customers, 5 cents a quart, or 4 cents at the depot.

THE THOUSAND-AND-ONE NIGHTS; translated and arranged expressly for Family Reading, with explanatory notes, by E. W. Lane. To be illustrated by 600 Beautiful Designs on Wood. New York: Harper and Brothers. Price 25 cents a number. This superb edition of the "Arabian Nights' Entertainment," is in course of publication and will be comprised in two volumes of twelve parts, each containing 96 duodecimo pages. We heartily rejoice at the re-appearance of this enchanting book of magic rings, wonderful lamps, flying horses, genii, afrites, and other creatures of fancy, in so cheap and attractive a form. One of the peculiar and most interesting features of this *new translation*, is the introduction, by way of notes, of many short tales and anecdotes, which form an integral portion of the original work, but which have been omitted, for the most part, by all previous translators. These annotations and anecdotes form of themselves an invaluable auxiliary, as illustrating many oriental customs and modes of thought.

SYMPTOMS OF DISEASE.—A white fur on the tongue attends a fever or inflammation; yellowness on the tongue shows a disease of the liver, and is common to bilious and typhus fevers. A tongue vividly red on the tip and edges, or down the centre, or over the whole surface, arises from an inflammation of the *mucous membrane* of the stomach or bowels. A white velvety tongue exhibits mental disease. A tongue red at the tip, turning brown, is the symptom of a typhus state.—*Exchange paper.*

A FRUITFUL APPLE TREE.—Mr. Samuel C. Corwin, of Phelps, Ontario county, has an apple tree (greening), which bore 70 bushels the past year. Of the 70 bushels 65 were good merchantable apples. This may be considered "rather steep" by some of our readers, but we are assured the statement is correct.—*Exchange Paper.*

AN ILLUSTRATED HISTORY OF THE HAT, from the Earliest Ages to the Present Time. By John N. Genin, Hatter, 214 Broadway, New York. Truly, this is an age of wonders, and to the genius and versatility of man there seems no end. In this amusing and exceedingly curious little work, the author shows himself equally *au fait* as an artisan, a litterateur, an antiquary, and a fashionable provider for the "externals of the head," if not for the brains. The performance is decidedly a "feather in his cap," and we trust that the public, in testimony of his success, will be ready to evince, that he is no "man of straw."

"THE MORAL CENTRE OF THE INTELLECTUAL WORLD."—Mr John Doyle, the most polite, courteous, and obliging bookseller, 146 Nassau st. N. Y., whose place of business is not inappropriately designated by himself under the name at the head of this notice, has just issued a full and carefully-prepared Catalogue of his large and extensive collection of ancient and modern books, new and second hand, treating on every department of literature, science, and art.

GRAPES AND WINE.—An interesting little work of 166 pages, has lately been published by C. S. Francis & Co., 252 Broadway, N. Y., entitled "A Visit to the Principal Vineyards of Spain and France; giving a Minute Account of the Different Methods pursued in the Cultivation of the Vine and the Manufacture of Wine, with a Catalogue of the Different Varieties of Grape, &c., &c." By James Busby, Esq. Price, 37½ cents.

LE DOYEN'S DISINFECTING, OR DEODORIZING FLUID.—This invention consists in neutralizing the noxious substances, containing sulphuretted hydrogen and sulphuret of ammonium, which are the prevailing results of the decomposition of animal and vegetable matter. It is successfully employed in depriving night soil of its offensive effluvia, and rendering it applicable as manure, without injury to public health, or to the individuals engaged in handling it. It has also been used for purifying hospitals and sick rooms, as a means of neutralizing the odor arising from fecal matter, or putridity, and for removing the bad smell from water closets, cesspools, steerages of passenger ships, bilge water, &c., &c. See advertisement, at page 198, of the present number.

BEEF LAW IN MASSACHUSETTS.—All beef cattle, except bulls, sold in market by weight, shall, when slaughtered, be prepared for weighing in the following manner:—The legs shall be taken off at the knee and gambrel joint; the skin shall be taken from all other parts of the animal; the head shall be taken off at the second joint of the neck; the entrails taken out, and all the fat of the same be taken off and weighed as rough tallow, and every other part of the animal, excepting the hide and rough tallow (the udder of cows excepted), shall be weighed.

All beef shall be weighed upon the first week day succeeding that on which it may be slaughtered.

THE STUBBORNEST ANIMAL IN THE WORLD.—A crowd, who had gathered about a tavern door, was busy in discussing what animal, of all others, is the most contrary. Some contended that the mule is, some a hog, and others a yoke of oxen. A Dutchman, who had very gravely listened to the conversation, gave his experience as follows:—"Der mule, der hoc, und der ox," said he, "ish vary stupporn, poot der hen ish der stuppornest animal in der worldt. I had von und I wanted to hatch zom chiggen. I made von fine leetle nest, und boot him in it, und she gits up und runs away. I den makes anoder shmall nest, und boots him on dat, und she runs away agin. I den makes von nice leetle pox, und boots it all over der hen; und for all der trouble mit I have, fen I beeped unter der leetle pox, der hen vas shettin' standin'."

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 17, 1848.

ASHES, Pots,.....	per 100 lbs.	\$5 35	to	\$5 31
Pearls,.....	do.	5 50	"	5 75
BALE ROPE,.....	lb.	6	"	8
BARK, Quercitron,.....	ton,	30 00	"	31 00
BEANS, White,.....	bush.	75	"	1 38
BEEFWAX, Am. Yellow,.....	lb.	19	"	22
BOLT ROPE,.....	do.	11	"	12 1/2
BONES, ground,.....	bush.	45	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	do.	15	"	25
Shipping,.....	do.	9	"	15
CANDLES, Mould, Tallow,.....	do.	11	"	13
Sperm,.....	do.	25	"	38
Stearic,.....	do.	20	"	25
CHEESE,.....	do.	5	"	10
COAL, Anthracite,.....	2000 lbs.	5 00	"	6 00
CORDAGE, American,.....	lb.	11	"	13
COTTON,.....	do.	44	"	8
COTTON BAGGING, Amer. hemp,.....	yard,	15	"	16
FEATHERS,.....	lb.	30	"	40
FLAX, American,.....	do.	9	"	10
FLOUR, Northern, Southern and West'n bbl.	do.	6 00	"	6 31
Fancy,.....	do.	6 50	"	7 00
Richmond City Mills,.....	do.	6 25	"	6 38
Buckwheat,.....	do.	—	"	—
Eye,.....	do.	3 50	"	3 75
GRAIN—Wheat, Western,.....	bush.	1 35	"	1 40
Southern,.....	do.	1 18	"	1 25
Rye,.....	do.	73	"	73
Corn, Northern,.....	do.	56	"	58
Southern,.....	do.	54	"	56
Barley,.....	do.	80	"	85
Oats, Northern,.....	do.	41	"	48
Southern,.....	do.	40	"	45
GUANO,.....	do.	2 50	"	3 80
HAY, in bales,.....	100 lbs.	48	"	52
HEMP, Russia, clean,.....	ton,	225 00	"	230 00
American, water-rotted,.....	do.	180 00	"	220 00
American, dew-rotted,.....	do.	140 00	"	200 00
HIDES, Dry Southern,.....	do.	6	"	8
HOPS,.....	lb.	5	"	8
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 00	"	4 12
Pipes for Pumps, &c.....	lb.	6	"	7
MEAL, Corn,.....	bbl.	2 25	"	2 62
Corn,.....	hhd.	12 50	"	13 00
MOLASSES, New Orleans,.....	gal.	25	"	27
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	1 75	"	2 00
Pitch,.....	do.	61	"	1 00
Rosin,.....	do.	65	"	75
Turpentine,.....	do.	3 50	"	2 75
Spirits Turpentine, Southern,.....	gal.	32	"	34
OIL, Linseed, American,.....	do.	57	"	58
Castor,.....	do.	1 50	"	1 70
Lard,.....	do.	1 00	"	1 08
OIL CAKE,.....	100 lbs.	1 00	"	1 15
PEAR, Field,.....	bush.	1 00	"	1 02
Black eyed, 2 do.....	do.	2 00	"	—
PLASTER OF PARIS,.....	ton,	2 25	"	3 00
Ground, in bbls,.....	of 200 lbs.	1 19	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	8 00	"	11 00
Prime,.....	do.	5 25	"	7 50
Smoked l,.....	lb.	7	"	11
Rounds, in pickle,.....	do.	5	"	7
Pork, Mess,.....	bbl.	9 75	"	12 00
Prime,.....	do.	6 50	"	9 00
Lard,.....	lb.	6	"	8
Bacon sides, Smoked,.....	do.	6	"	8
In pickle,.....	do.	5	"	7
Hams, Smoked,.....	do.	8	"	13
Pickled,.....	do.	6	"	10
Shoulders, Smoked,.....	do.	6	"	9
Pickled,.....	do.	5	"	7
RICE,.....	100 lbs.	3 00	"	4 00
SALT,.....	sack,	1 35	"	1 45
Common,.....	bush.	20	"	35
SEEDS—Clover,.....	lb.	6	"	8
Timothy,.....	bush.	3 00	"	4 00
Flax, clean,.....	do.	1 35	"	1 40
rough,.....	do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,.....	lb.	3	"	—
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	3 1/2	"	5
SUMAC, American,.....	ton,	35 00	"	37 00
TALLOW,.....	lb.	8	"	9
TOBACCO,.....	do.	3	"	9
WHISKEY, American,.....	gal.	21	"	23
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	30	"	35
Half blood,.....	do.	20	"	25
Common do.....	do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef from 6 to 12 cents per lb.; Veal, 4 to 9 cents; Mutton 7 to 9 cts.; Lamb, 10 to 12 cts.; Ham and Bacon, 10 to 12 cts.; Pork, 8 to 10 cts.; Young Pigs, \$1 to \$1.25 each.

Fish, &c.—Shad from 13 to 37 cts. each; Poggies, 12 to 18 cts. per dozen; Mackerel, 5 to 10 cts. each; Cod 2 to 3 cts. per lb.; Halibut, 5 to 6 cts.; Salmon, 30 cts.; Lobsters, 5 cts.; Oysters, 50 cts. to \$1 per hundred; Clams, 25 to 50 cts.

Poultry and Eggs.—Turkeys from \$1.75 to \$2.50 each; Ducks, \$1 to \$1.37 per pair; Chickens, 75 cts. to \$1.75 per pair; Pigeons, \$1.25 to \$1.50 per dozen; Eggs, 10 to 12 cts. per doz.

Dairy Products.—Butter from 18 to 23 cts. per lb.; Cheese, 9 to 12 cts.; Cheese Cakes, 7 for 12 cents; Milk 3 to 5 cts. per quart.

Ice, 25 cents per 100 lbs.

Fruit and Nuts.—Spitzbergen Apples (French) from \$2 to \$2.50 per bbl.; R. I. Greenings, \$2 to \$2.25; Newtown Pippins, \$3 to \$4.50; Roxbury Russets, \$2 to \$2.50; Apples in small quantities, 12 to 37 cents per half peck; Cranberries from 95 to \$1.00 per bbl.; or 75 cents per half peck; Green Currants, 8 to 10 cts. per quart; Strawberries none in market; Oranges, 25 to 75 cts. per dozen; Lemons, 18 to 31 cents; Pine Apples, 18 to 37 cts. each; Bananas, 25 to 50 cents per dozen; Hickory Nuts, \$3 per barrel; Pecan nuts, \$1.25 to \$1.35 per bushel.

Vegetables.—Carter and Mercer Potatoes from 88 cts. to \$1 per bushel; Flash-colored do, 50 to 62 cents.; New Potatoes, (southern), \$2.50 per bbl.; Sweet Potatoes, \$1 to \$1.13 per bushel; Onions (red), 88 cents per bushel; do (yellow), \$1; New Onions and Leeks 8 to 10 cts. per dozen; Parsnips and Turnips, 62 per bushel; Shelled Green Peas (southern), 75 cts. per half peck; Squashes (southern), 25 cents each; Asparagus, 12 to 37 cts. per bunch; Water Cresses, 6 to 13 cents per half peck; Rhubarb, 75 cents to \$1.25 per dozen; Artichokes, 10 cents each; Radishes, 6 to 12 cents per dozen; Lettuce, 25 to 50 cents per dozen; Spinach and other Pot Herbs, \$1. to \$1.12 per bbl.

REMARKS.—Business is generally steady and quiet, with little change since our last. Flour and Provisions are giving way a trifle.

The Weather is very favorable for the growing crops, which are looking remarkably well the country over.

TO CORRESPONDENTS.—Communications have been received from Calvin Coulter, Jr., Reviewer, R. L. Allen, and Cuto.

Review of the Transactions of the Agricultural Societies of Massachusetts, for 1847, has been unavoidably omitted this month.

Who was Cincinnatus?—C. C. Jr., of Orange, N. J.—Your history of this individual is altogether too long for insertion in our columns. The substance of what you say is expressed in the following words:—Cincinnatus was a Roman of low extraction, who, as he was plowing his fields, was informed that the senate had appointed him dictator. He left his lands with regret and hastened to join his countrymen, who were closely besieged by the Volsci and Aequi, whom he conquered, and returned to Rome in triumph. Shortly afterwards, he gave up his office and returned to the plow; but in his 80th year, he was again summoned as Dictator; and, after a series of successes, he resigned the absolute power he had enjoyed, nobly disregarding the rewards that were offered him, about 460 years before Christ.

Remarks on the Agricultural History of Primitive Nations of the East.—C. C. Jr. Would require more space than our journal will admit.

Castration of Pigs.—L., of Tarrytown, N. Y. Definite and satisfactory directions for performing this operation cannot conveniently be given in this journal, neither do we deem it necessary, as there are almost always to be found, in every district, persons practically acquainted with this branch of veterinary surgery, who may be consulted or employed. For further information on this subject, see Youatt's Treatise on the Pig.

Strangulated Hernia in Pigs.—L. The case you name of the protrusion of the intestines after castrating your pig, was probably the result of strangulated hernia, which existed before the operation was performed. A proper course to pursue, in such cases, is to elevate the posteriors of the animal, on a fence, or some other object, with the fore feet resting on the ground, or floor, which will cause the intestines to fall back, by the laws of gravity, into the body again, when the incision, or rupture, may be stitched with thread, or metallic pins. By remaining in this position a few hours, a union of the flesh will take place, after which he may be released, and on being kept quiet for a week, or ten days, he will generally recover.

Boys' Department—Breakfast-Table Conversation.—C. C. Jr. Much obliged. Full for the present. Let us hear from you privately.

ACKNOWLEDGMENTS.—Proceedings and Supplement of the State Agricultural Society of South Carolina; also the Premium List of the Yates County Agricultural Society for its Annual Fair to be held at Penn Yan, on the 29th and 30th of September next; with a List of the Officers, Committees, &c., to which are added the Constitution, Rules, and Regulations of the society.

ARTIFICIAL MANURES, &c.

ATWATER'S AMERICAN COMPOUND OF MANURES, composed of fertilizing materials, and is designed for growing garden vegetables, fruit trees, vines, and ornamental flowers or plants of every description, as well as for general crops. The quantity required per acre, will vary from 30 to 50 bushels, according to the condition of the land to which it is applied. Price, 40 cents per bushel.

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All editors inserting the above, and forwarding the paper containing it to the publisher, will be entitled to the *Agriculturist*, the current year, without further charge.

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Agriculture is the most healthy, the most useful, and the most noble employment of men.—WASHINGTON.

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NO. VII.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher.

THE AMERICAN AGRICULTURIST

AND

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UNITING OF THE FARMERS' CABINET WITH OUR JOURNAL.

THE Farmers' Cabinet and American Herd Book, heretofore so well edited and published by JOSIAH TATUM, of Philadelphia, has been consolidated in the American Agriculturist, by mutual consent. Mr. Tatum, the former proprietor of that paper, will hereafter act as agent for the Agriculturist, and furnish it to his subscribers at *One Dollar* per annum. Those receiving this number of the Agriculturist are solicited to forward the amount of their subscription, by mail, or otherwise, to C. M. Saxton, 205 Broadway, New York, or, if more convenient, to Josiah Tatum, No. 50 North Fourth street, Philadelphia. As no pains will be spared to render our paper as practically useful to FARMERS as possible, it is hoped that this arrangement will be satisfactory to the subscribers of the "CABINET," and that they will favor us with their continuance.

TIME FOR CUTTING WHEAT.

THE appearance, or condition, indicating the proper time for cutting wheat, depends on the variety. Thus, when the grain of red wheat can be squeezed between the thumb and finger, without any moisture being forced from it, cutting may always be safely commenced; for it is never better than when harvested in this state, and if cut later, the wheat is seldom so good in quality; besides, serious losses are sometimes sustained, in consequence of high winds when it is allowed to arrive at a riper state. The white varieties should stand somewhat longer than the red before they are cut.

With respect to the color of the straw, as a sign of maturity, experience has shown, that, if in a healthy state, the ear generally ripens before the straw; the yellowness of the chaff and upper parts of the straw indicates that the crop is fit to cut; and the uniform yellow color of the straw, shows that the crop has arrived at maturity, and, if suffered to stand in the field, the kernels are liable to be shaken out by the wind.

MANAGEMENT OF CHEESE DAIRIES, AND MANUFACTURE OF CHEESE.

HAVING been personally engaged, in 1845, in some sixty dairies, which were located in thirteen towns, and four counties, and more or less in the same manner the past two years, I have observed a marked difference in the capacity of soils for producing herbage, under different modes of culture, and the various conditions and treatment of cows, affecting their capacity for milk, both as regards *quality* and *quantity*. The inconvenient and improper fixtures, in many instances, for making and curing cheese, which are to be found, all unite in convincing me, that any set of rules for making cheese would not be practicable, even with the most proficient cheese maker; because,

In the first place, milk is a very sensitive fluid, and liable to be varied in quality by impure water, by damp and unventilated stables, change of diet, excess of feeding, excitement of temper, irregular milking, salting, &c., which destroy its susceptibility to produce like practice.

2d. Cheese, when pressed and exposed in a *curing process*, is no less sensitive, and equally liable to be varied in texture and flavor, by size of cheese, exposure to excess of heat, bad air, &c., the effect of which I shall hereafter notice. There are, however, leading principles which form the basis of operations, and should be closely adhered to in all cases, in the process of manufacturing cheese. *Salt, rennet, heat, and pressure* are the principal agents used in converting milk into cheese, the flavor and texture of which is determined by their proportionate use. Their proportion is varied by different dairymen, according to their notions of propriety, as best adapted to their fixtures, experience, &c. Hence arise the great inequalities in dairies, in the same neighborhood, and even in the same *dairy rooms* may be found as many different qualities of cheese as there are of fruit in an apple orchard. Some of these are matured at an early period, while others mature later, and are unsuited to the same market.

Much of the cheese being contracted for before it is made (in the early part of the season), both buyer and maker are liable to be disappointed in the cheese being suited to the market for which it is designed, destroying the confidence of purchasers, and injurious to the best interests of the dairymen. It is therefore necessary, that makers should have sufficient knowledge of the science to determine the result of their practice, which cannot be learned from verbal instruction. It is by *practical experience and close observation only*, that the maker can learn to adapt his practice to the frequent and extreme changes to which our climate is subject, varying the quality of the milk, and materially affecting cheese in process of curing.

The evening's and morning's milk is commonly used to make one-day's cheese. The evening's milk is strained into a tub, or pans, and cooled to prevent souring. This is done by running water through a vessel set in the milk, or setting pails filled with cold water into the tub, and stirring till cool; but little cream will rise over night.

The cream is taken from the evening's milk, and kept till the evening's and morning's milk are put together, and warmed to receive the rennet. This is often done by heating a part of evening's milk to a temperature that will warm the whole mass. Both are objectionable, *because the natural affinity which is necessary to preserve between the constituent parts a perfect coherence* is destroyed, by a portion of the milk being overheated. It is better to warm the whole mass in a manner that will produce an *equilibrium of heat*, which is best done by placing the vessel, containing the milk, within a larger vessel, with two inches under the bottom, and one inch of space at the sides, into which space water may be put to cool the milk, and into which steam may be let to warm the milk, and scald the curd. The more water surrounding the milk, the more uniform will be the heat. The cream, if added

(which is generally done), is best incorporated with the milk, by putting it with twice its quantity of warm, new milk from the cow, and add warm water to raise its temperature to ninety-eight degrees. Stir it till perfectly limpid, add cream to milk, and then put in rennet, that the same stirring may mix both at once with the mass. If milk is curdled below eighty-four degrees, the cream is more liable to work off with the whey. *An extreme of heat will have a like effect.*

Curdling heat is varied with temperature of the air, or the liability of the milk to cool after adding rennet. A fine cloth spread over the tub while the milk is curdling will prevent the surface from being cooled by circulation of air. *No jarring of the milk*, by walking upon a springy floor, or otherwise, should be allowed while milk is curdling, as it prevents a *perfect coherence*.

Rennet.—Various opinions exist as to the best mode of saving rennet, and that is generally adopted which is supposed will curdle the most milk. I have no objection to any mode that will preserve its strength and flavor, so that it may be *smelt and tasted* with good relish, *when put into the milk*. Any composition not thus kept, I deem unfit for use, as the coagulator is an *essential agent* in cheesing the curd, and sure to impart its own flavor. The rennet never should be taken from the calf, till the excrement shows the animal to be in perfect health. It should be emptied of its contents, salted, and dried, without scraping or rinsing, and kept dry for one year, when it will be fit for use. It should not be allowed to gather dampness, for its strength will evaporate. To prepare it for use, into ten gallons of water (blood warm), put ten rennets, churn or rub them often for 24 hours, then rub and press them to get the strength, stretch, salt, and dry them as before. They will gain strength for a second use, and may be used when the weather will admit of soaking them to get the full strength. Make the liquor as salt as can be made, strain and settle it, separate it from sediment (if any), and it is fit for use. Six lemons, two ounces of cloves, two ounces of cinnamon, and two ounces of common sage are sometimes added to the liquor to preserve its flavor and quicken its action. If kept cool, in a stone jar, it will keep sweet any length of time desired, and a uniform strength can be secured while it lasts. Stir it before dipping off to set milk, take of it enough to curdle milk *firm* in 40 minutes. Squeeze or rub through a rag annotta enough to make the curd a cream color, and stir it in with the rennet. When milk is curdled so as to appear like a solid, it is divided into small particles, to aid the separation of the whey from the curd. This is often too *speedily done*, to facilitate the work, but at a *sacrifice of quality and quantity*.

The three *indispensable agents*, heat, rennet, and pressure, rightly applied, must keep pace with each other in effect. The two former operate to subdivide, the latter to aid, cohesion, by bringing the particles of a sameness closer in contact. This should be *skillfully and studiously* applied in a mild way, according to the capacity of the curd, to receive it. The less friction in working the curd the less waste. If *heat is raised too fast*, or commenced

while the curd is too young, the effect of the rennet will be checked, and decomposition will not be complete, and will result in a leaky cheese.

This often happens when steamers are used in small dairies. Heat may be raised in scalding to *keep pace with rennet*; if rennet is quick, heat may be raised quick, if slow, heat must be raised slow and held longer. Scalding heat may be carried from 96° to 104°, according to the cheese and temperature to which the cheese is exposed. During the process of scalding, the whey and curd should be kept in motion, to prevent the curd from settling and sticking together, as separating it is attended with great labor and waste, from friction.

When the curd is cooked, so that it feels elastic and will squeak when chewed with the front teeth, it is separated from the whey to receive salt. This is done by dipping it into a strainer over a basket, or sink, or drained off and salted in the tub. Either may be done without adhering in lumps, by stirring it in a small portion of whey, till cooled to 94°. This is the most critical part of the process, where cheese makers are most likely to err, as the portion of salt retained in cheese after pressing, will be in proportion to the capacity of curd to receive it when added. At a particular period and temper of curd, when draining off whey, it will absorb salt freely, and after being thoroughly mixed and packed up for a few minutes while warm, it will be evenly shrunk and cleansed by salt and whey, and will press out freely; but if the curd is *not well cooked*, or cooled too fast in draining off whey, it will acquire a degree of stubbornness, prevent the absorption of salt to shrink and cleanse, and *no amount of pressure* will be sufficient to drive out the fluid.

If curd is not worked even, the larger lumps will not be cooked enough, or the lesser too much (like large leaves of bread and small biscuit baked together in one oven); hence the cheese is left impregnated with the elements of fermentation, which increase on being exposed to heat, till the cheese is sufficiently swollen, or huffed, for each constituent to occupy a separate space in the same shell, or rind. The fluids first attract together by affinity, forming small cavities in which they remain *unaffected by salt*, become fetid, and generate an unpleasant odor, which is fair proof of the quality of rennet used. Curd should be salted warm, it is then most absorbent, and thoroughly cooled before putting it to press, to suppress the combined action of *heat and rennet*. The quantity of salt required, varies with the condition of the curd, size of cheese, amount of heat to which the cheese is exposed in curing, and market for which it is designed.

A well-worked cheese, from fifty to one hundred pounds, requires one pound of refined salt to forty pounds of curd, to remain in the cheese after it is pressed and exposed to a temperature of from seventy to eighty degrees. This may be varied from two to four pounds to the hundred, according to the texture of cheese required—small cheese requiring less and large cheese more.

A degree of moisture is necessary in cheese for a malleable texture, but this should not be *from animal fluids retained in the curd*. A highly-salted cheese, immediately exposed to high temperature,

becomes sour, hard, dry, and crumbling; the same exposed to a cool, damp atmosphere retains sufficient moisture to be soft, yet solid. A cheese light salted, in a high temperature, will cure quick, become porous, huffy, and stale. *Curd, from hay milk*, requires much less salt than that from grass or grain feed, as it is poorer and will retain salt, like lean meats. The richer the milk, the more salt is required to control the animal properties, and the *less absorbent the curd*, the pores being filled with the finer buttery particles.

More salt is required in hot weather, also, to overrule the *combined action of rennet and heat, neither of which will be effective alone*. When curd is ready to press, it is important to *dispossess these decomposing agents*. The gastric juice, or coagulator, is a *fluid*, and works off with the animal fluids in whey, and the only way to get rid of it, is to work the curd *down fine and solid, and work the whey all out*. Then cool the curd thoroughly before pressing, and the cheese will be solid and keep its place. But if the whey is not all out, the decomposer is yet on hand, continues its action, aided by heat, till an *equilibrium of chemical action is destroyed in the cheese*, and the fluid properties leak out in fetid whey and oil, leaving it a rank and worthless article. In short, the proper method of using salt must be arrived at by a close observation as to its *chemical combination with the constituent properties* at different ages of the cheese with different sizes, heat, dampness, &c. This, although an essential point, has not been sufficiently determined by chemical analysis, to be reliable.

Pressing.—When curd is properly tempered for pressing, a cotton or linen cloth is spread over the hoop, the curd is put in and pressed with from three to twelve tons' weight, turned twice in eight and forty hours, into clean dry cloth. The press should be faithful and follow down as the curd yields (when young), to press out whey before a rind is formed to prevent its escape. There is no danger of too much pressure, after the first ten minutes. The press, hoops, cloths, &c., should be cleaned with lye often, to keep rind from cracking. The cloth is taken from the cheese when it is taken from the hoop. The cheese is set on a table for a few hours, till dry enough to absorb oil, and then painted with annotta, mixed in strong lye (from common ashes), kept in a jar for ready use. This toughens the rind so that it will not require much grease after the first coat, to make a smooth rind, if rubbed often with the hand, moistened with oil.

The paint will fade to a rich butter color, which is as high a color as is desirable. A firm rind may be formed upon cheese, when young, by a careful exposure to drying air, frequent rubbing with the hand, and no more oil than will readily incorporate with the rind. If more grease is used than will be taken up, it will sooner or later flake off, leaving the cheese scabby, without rind, exposed to cracks, flies, mould, &c. Oil, for greasing cheese, is obtained from cream skimmed from whey, after standing 24 hours; it is churned, till separation takes place, like butter, then melted over a slow fire till it is turned to oil. A preparation of bees' wax, from $\frac{1}{4}$ to $\frac{1}{2}$, mixed with oil, will make a rind impervious to flies. It is most desirable that cheese, designed for foreign markets, should be in a proportion half

as thick as they are wide, and not to exceed 100 lbs. in weight. The size of the hoop may be calculated from the number of gallons of milk; each gallon will make one pound of cheese.

A cheese 21 inches wide will weigh 14½ lbs. to each inch in depth.

"	20	"	"	12	"
"	19	"	"	10½	"
"	18	"	"	9	"
"	17	"	"	8	"
"	16	"	"	7	"
"	15	"	"	6	"
"	14	"	"	5	"

Cheese of the above proportions are banded with cotton cloth to keep them in shape. The band should not cover more than an inch or inch and a half of the flat surface. Heavy cheeses must be banded with cloth that will not stretch, or their gravity will make them ill-shapen.

In 1845, the experiments alluded to, with sixty dairies, being got up expressly for shipment, a selection was made from the largest and most experienced dairymen in thirteen towns. A vigorous effort was made to reduce the whole practice to one general rule, consisting in *strict cleanliness in every department*, an equilibrium of heat in milk to set, not exceeding ninety degrees, with pure rennet to curdle milk in forty minutes; curd thoroughly worked by hand, till as fine, when scalded, as wheat or corn; curd scalded in whey with heat not exceeding one hundred degrees, and that heat held until the curd appeared shrunk, and would squeak when pressed between the front teeth. The whey to be drained off, and the curd salted, while warm, with 2½ lbs. of refined salt to 100 lbs. of cheese, cooled and pressed forty-eight hours. Cheese half as high as wide.

These leading points, strictly adhered to, were found adequate to produce the article required, where curing rooms were constructed so as to preserve a *uniform moderate temperature*. The cheese, not affected by extreme changes of climate, fermented slowly and uniform, rind firm and smooth, with little grease; texture firm and solid, yet malleable like butter; the flavor mild and pleasant. The weather being cool till June, a great uniformity was manifest in shape and texture. A sudden change of weather to 88° heat, lasting several days, produced a contrast, in different dairies, equal to the extreme in temperature, which was found in many dairies, to exceed the common atmosphere from 8° to 10°. With little or no ventilation in these, cheeses were much swollen, and could be kept in shape only by using *less rennet and more salt*. The *huffed cheese* remaining in same rooms became tainted, or generated a sharp unpleasant flavor; those removed to a temperature suited to their constitution cured quick, and were well adapted to early home markets. Those salted high enough to stand the excess of heat, were hard, dry, crumbly, and smart. A dry room was found best for a wet cheese, and a damp room best for a dry cheese; but in no case was a high temperature (exceeding 75°), found necessary.

Having previously written at considerable length upon *general treatment, adaptation of food*, I shall not here go into a lengthy detail, but a few hints may not be inappropriate. The success of dairymen (like grain growers), depends much upon

adapting their practice to the provisions of nature. Cows should be in a condition to yield the greatest flow of milk, upon the cheapest and most spontaneous productions from the earth. Maize, mangel wurtzel, cabbage, carrots, and ruta bagas (of the cultivated crops), yield the largest product per acre, and from the varied periods at which they arrive at maturity, are well calculated to protract the flowing of milk till late in the season. Those most perishable to be used first. It is proved by experiments, that a cow will give the most milk from the same amount of food, during the first sixty days after gestation begins. My cows yielded 45 lbs. milk per day, the first of March, on 25 lbs. of good hay and 4 quarts of provender in slops. The first of June diminished in quantity, and the first of November on same feed, gave only 20 lbs. per day. Other cows of equal quality, coming in from the middle of April to the first of May, gave, on the first of June, 55 lbs. of milk on grass only, and held a good flow of milk through the season. On the first of December, they gave 20 lbs. of milk each, while those in milk the first of March, were nearly dry, upon the same feed, proving conclusively, that cows in general, will yield more and better milk from first of May to January, than from first of March to January. The months of March and April require much more labor and grain feed, that would otherwise turn to money. *Nature provides, in spring time, a principle of general progressiveness in the animal and vegetable kingdom.* The thriftiest growth of spontaneous product is in May and June, and cows should then be in a condition to receive its aid.

If seed of a spring crop is sown too early, the crop will be stinted; so with cows that calve in February and March. Nature having made its master effort in the animal economy, it cannot be revived again in spring time of vegetation, and in the fall, when farmers have more or less of coarse perishable food, like pumpkins, apples, etc., they are not in so good condition to yield milk, as when they are started late, and their flowing is kept up by sowed corn or other succulent food.

I realized the greatest net product of cheese in 1844 and 1845. Commencing April 20th, with half my cows in milk, average yield in 1844, 700 pounds, per cow, market weight. In 1845, average yield, 775 pounds per cow, weighed daily from the press, averaging five pounds per cow, per day, during the first five months. Less grain was required to keep their flowing of milk the five months, than in the months of March and April, when commencing on the 10th of March.

No one kind of grass, or other food, is found to produce so much, nor so good milk, as good pasturage upon soil yielding a great variety of grasses, each maturing at different periods, and furnishing in their turn the *flower of feed*, from which the finest flavor of butter and cheese is derived. Such soils are prevalent in this county, where the land is elevated and not over worn with tillage. Low, marshy grounds, and those having a northern or north-western descent, are exceptions.

A difference of from 5 to 10 per cent. is frequently shown by the lactometer in the quality of milk from neighboring dairies, the proof being in favor of those *best fed and husbanded*. The prac-

tice is prevalent among dairymen of pasturing the low, wet, and shady portions of their farms (if they have such), and using for meadows the more arid portions. In some such locations, it is impossible to make a fine flavored cheese. The curd works tough and stubborn, and cheese is invariably of a harsh, rank flavor. If this practice should be reversed, and the low lands used for meadows, and the elevated, warmer portions grazed, I have no doubt a great improvement would be made in our dairy products.

More care is required in working curd where whey and grain is fed, than when cows are grazed, as the milk is richer, and cheese more apt to be harsh flavored; when cows are in heat, their milk should not be put with the rest till thoroughly cooled. It is often rank and bitter, and will sour in a few hours. If cows eat salt largely, beware of soft leaky cheese; it retards the effect of rennet to decompose. Salt should lay by the cows that they may take a little daily. Corn sowed in drills will produce more milk, arising from the cultivation and effect of sun and air. If fed when too old, it is not succulent and will dry up the milk.—

Transactions N. Y. State Ag. Soc. A. L. FISH.
Leitchfield, Herkimer Co., 1847.

ADULTERATION OF FOOD.—No. 1.

THE adulteration, or falsification, of food, with the view of making one substance more saleable by improving its appearance by the addition of another, either harmless or otherwise; or of fraudulently depreciating its quality by adding to it some innocuous, or deleterious substance, diminishing its real, without altering its apparent, value, is of no recent origin; for in every nation, and in every time, similar modes of procedure have been adopted and flourished, and in many instances, by the aid of science, the avarice, dishonesty, and misplaced industry, (or all three combined), of some parties have raised adulteration to the standing of an art, and so ingenious have those become who have dealt in these mysteries, that it has required the greatest tact, labor, and circumspection, to bring their iniquitous proceedings to light. Indeed, in many cases, these frauds, or sophistications, have been so novel in their character, and have been executed with so much skill, that, not only the officers specially employed for the investigation, but even the chemists themselves, were not able to detect the deception.

It may not generally be known, that nearly all the substances used, either as articles of food or clothing, are adulterated, debased, or badly manufactured, and to an extent, too, in many instances, that, at first, would be deemed almost incredible. Some of these frauds consist, merely in deceiving the purchaser, or consumer, either in weight or measure; others reduce the quality of the article by mixing with it some substance which may be harmless in itself, while, not a few, go so far as to add highly deleterious, and even poisonous materials with those which are absolutely necessary to life! What deadly and pernicious effects must be produced by a continued introduction of such substances into the system, day after day, month after month, and year after year, however small, however trivial, however comparatively insignificant or

unimportant one small dose might seem, but causing in the end, the most disastrous, and often fatal results!

It must not be supposed, however, that every person, who deals in adulterated goods, is guilty of fraud; for certain cases are known, in which the articles have either been supplied him in a counterfeit state, when it was thought that they were absolutely pure; or the admixture has been accidental, and oftentimes is the result of carelessness and inexperience. For, many articles of food derive poisonous constituents from the vessels employed in their manufacture, as the action of acids, vegetable juices, fatty matter, &c. on those made of copper, zinc, or lead.

In every well-governed state of continental Europe, we are informed, there exists a board of health (Conseil de Salubrité), composed of eminent physicians, chemists, and engineers, appointed to watch over whatever may injuriously affect the health and comfort of the citizens. In Paris, this commission has heretofore consisted of seven members, who have the surveillance, in this respect, of the markets, factories, bakeries, meat shambles, medicines, places of amusement, &c., and on the detection of any falsified, or pernicious articles of medicine, or food, it is immediately seized, or destroyed, and the culprits manufacturing, or offering them for sale, are fined, or punished, according to law.

The municipal law of Prussia (Allgemeine Landrecht), contains the following enactments with regard to the sale of injured, or adulterated food:—"No person shall knowingly sell nor convey to others, for their use, articles of food or drink, which possess properties prejudicial to health, under a penalty of fine and bodily punishment. Whosoever adulterates any such food, or drink, in any manner injurious to health, or mixes with them unwholesome materials, especially by adding any preparation of lead to liquors, shall, according to the circumstances of the case, and the degree of damage to health, be liable to imprisonment in a house of correction, or in a fortress, during a period, varying from one to three years. Besides this punishment, those who are found guilty of knowingly selling food, or drink, which is damaged, or spoiled (verdorben), or mixed with deleterious additions, shall forever be prohibited from carrying on the same branch of business. The articles in question shall be destroyed, if beyond the means of amendment, but if otherwise, they are to be improved, as far as possible, at the cost of the culprit, and then confiscated for the benefit of the poor. Furthermore, whoever mixes food, or other goods, with foreign materials, for the purpose of increasing its weight, or bulk, or its apparent good qualities, in a deceptive manner, shall be punished as a swindler."

We are happy to learn that strenuous efforts are now making, in different states of the Union, for Congress to pass an act for the suppression of adulterated drugs and medicines, and the punishment of the culprits, who may knowingly be detected in their manufacture, or in offering them for sale. We would suggest that it would be a measure of great utility, if not of equal importance, for similar laws to be passed in relation to the adulteration of food and every other article appertaining to comfort and public health.

In the course of this series, we shall endeavor to confine ourselves to a review of such articles as are in common use, as food, or drink, and are generally subject to adulteration, or falsification, either at home or abroad. Among these will be included *flour, grain, bread, starch, arrowroot, milk, cream, butter, cheese, oil, lard, honey, sugar, molasses, tea, coffee, chocolate, salt, mustard, pepper, ginger, spices, pickles, confectionary, wines, spirits, beer, cider, vinegar, nuts, fruit, &c.* To the above-mentioned, might be added the frauds practised in substances not used as food, such as soap, candles, snuff, tobacco, jewelry, silks, cottons, woollens, linens, dye stuffs, and drugs, several of which, it is not within our province to deal.

SCALES FOR WEIGHING.

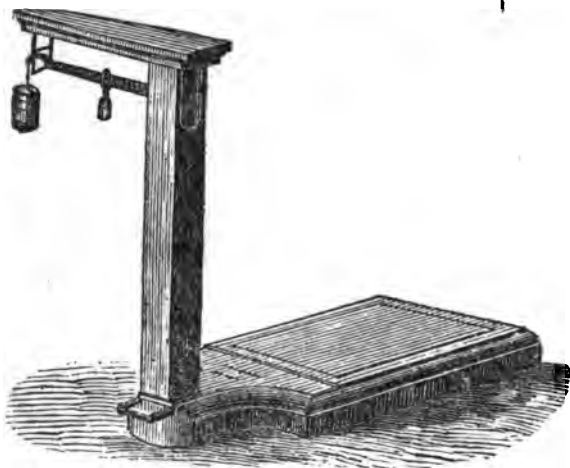


FIG. 53.

PLATFORM SCALES.—These are made of various sizes, to weigh from one pound to over a ton. They are perfectly accurate, and are so constructed as not to be liable to get out of order. When worn, or broken by long or rough usage, they are easily repaired. Prices, from \$20 to \$25.

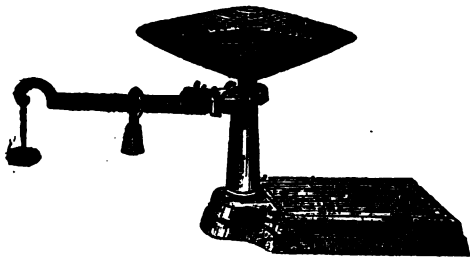


FIG. 54.

COUNTER SCALES.—These are made with the same accuracy as the platform scales, but much lighter, to weigh smaller quantities. Prices, from \$6 to \$7.

Any of the foregoing articles can be furnished both at wholesale and retail.

THE COW—HER DISEASES AND MANAGEMENT.—No. 3.

Among the diseases of the cow requiring the greatest attention in their treatment, are inflammations, which are violent in their attacks, rapid in progress, and must be opposed by the most powerful means of relief; otherwise they will frequently result in the death of the animal. A disease of this class, which requires immediate attention is

Inflammation of the Brain, called also "frenzy," or the "slough." The cause of this malady may proceed from the suppression of natural evacuations, from exposure to extreme heat and cold, injuries of the brain, &c., &c. Unless taken at the commencement, it is apt to terminate in suppuration of the brain, and not unfrequently in mortification.

The prevailing symptoms of the disease consist of a constant watching and raving, the breathing is slow, the countenance appears much disturbed, and all the marks of madness are conspicuous in the wild look and fierceness of the animal. On examining the pulse, at the temporal artery, the beating is strong and rapid, and sometimes irregular. Along with this, may be observed a peculiar redness of the eyes, the urine is always highly colored, and she is occasionally seized with profuse perspiration and convulsed motions, when agitated or disturbed.

In the treatment of this disease, blood-letting is the principal and only remedy to be depended on. Hence large and repeated bleedings should be immediately had recourse to, as soon as the malady shows itself; the blood should also be taken from a large orifice, if a vein be preferred; but the best situation for drawing the blood in

this case, is the temporal artery.

Next to bleeding, purging will be found a useful remedy, in order to procure a revulsion of the blood from the head; and the doses for this purpose should be strong, and speedy in their operation; thus,

Take Epsom salts (sulphate of magnesia), 2 lbs.; nitre (saltpetre), 1½ oz., and mix for one dose; to be given in 2 quarts of thin gruel and ¼ pint of molasses.

When this has operated, and bleeding has taken place to a sufficient extent, small doses of nitre and camphor, prepared after the first formula prescribed for a cold at p. 142 of the present volume; and in general the same diet and after treatment apply here as directed for fevers, at p. 176.

Inflammation of the Lungs.—This disorder, sometimes known by the names of "fog sickness," and "rising of the lights," is a disease to which cattle are very subject. Its principal cause is whatever occasions obstructed perspiration. Hence it is brought on by dry, cold winds; also from drinking too much cold water when over-heated, or in being kept too long from water. It is also frequently occasioned by being turned out into a pasture that contains much cold dew, or is covered with hoar frost.

The disease is known by great difficulty of breathing, attended with a cough, or hoarse; the cow opens her mouth wide; the tongue is thrust out; the nose and mouth discharge a ropy slime; the eyes appear dull and heavy; the pulse hard; and she is unwilling to lie down. When moved, she appears uneasy, and in giving her drink, it seems as though she would be choked in attempting to take it; she is also very costive; the external surface of her skin feels cold, particularly on the legs, ears, and at the roots of the horns; and, as the disease progresses, she becomes very restless and often is unmanageable.

Bleeding, as in the preceding case, is the principal remedy. The animal should be bled freely, and from a large orifice; as a timely bleeding will often do much to check the disease at its commencement. After this, the best practice is, to peg the cow in the dewlap with the following mixture:

Corrosive sublimate (bi-chloride of mercury), 1 drachm; euphorbium, $\frac{1}{2}$ drachm; hog's lard, 1 oz.

First, an incision is to be made in the dewlap; the skin is then to be separated from the flesh sufficiently to admit the quantity of medicine directed above, which must be introduced into the wound. As soon as the swelling or inflammation in the dewlap has taken place, relief will be given to the lungs, and the inflammation will begin to decrease. In the mean time, till this takes place, the bowels should be opened, by a dose of medicine prepared agreeably to the first formula given at p. 142 of the current volume. After this, an attempt should be made to open the pores of the skin, and to remove the general contraction of the surface, by the following mixture made into a ball with fennugreek powder and molasses:—

Tartaremetic, 1 $\frac{1}{2}$ drachms; camphor, 1 $\frac{1}{2}$ drachms; calomel, 6 grains; nitre, $\frac{1}{2}$ oz.; opium, $\frac{1}{2}$ drachm.

This medicine may be repeated twice a day till the skin is rendered free and perspirable, and the more alarming symptoms of the disease depart.

The diet and other parts of the treatment, correspond precisely with those detailed in the treatment of inflammation of the brain.

A CURIOUS FACT IN BUTTER MAKING.—According to Professor Johnstone, the time and frequency of milking have a great influence on the amount of butter yielded by milk. If a cow be milked only once a day, he says, the milk will yield a seventh part more butter than an equal quantity of that which is obtained by two milkings in the day. When the milk is drawn three times a day, it is more abundant, but still less rich. It has also been remarked, that the morning's milk is of better quality than that obtained in the evening.

DIMENSIONS NECESSARY FOR HEALTH IN LIVING OR SLEEPING APARTMENTS.—No living, sleeping, nor working room should contain less than 140 superficial feet at the bottom, nor should be less than eight feet high, with at least one window, opening at the top, and if possible, it should not be without an open fireplace, or an opening for ventilation near the floor.

AGRICULTURE OF THE CHINESE.—No. 7.

Cultivation of Cotton.—The Nanking cotton plant (*Gossypium herbaceum*), or "Mie-wha" of the northern Chinese, is a branching annual, growing from one to three or four feet in height, according to the richness of the soil, and flowering from August to October. The flowers are of a dingy yellow color, and, like those of the hibiscus, or malva, which belong to the same tribe, remain expanded only for a few hours, in which time they perform the part allotted to them by nature, and then shrivel up and soon decay. At this stage, the seed pod begins to swell rapidly, and when ripe, the outer coating bursts and exposes the pure white cotton in which the seeds lie imbedded.

The yellow cotton, from which the beautiful Nanking cloth is manufactured, is called "Tze mi wha" by the Chinese, and differs but slightly in its structure and general appearance from the kind just noticed. I have often compared them in the cotton fields where they were growing, and although the yellow variety has a more stunted habit than the other, it has no characters which constitute a distinct species. It is merely an accidental variety, and although its seeds may generally produce the same kind, they doubtless frequently yield the white variety, and *vice versa*. Hence, specimens of the yellow cotton are frequently found growing amongst the white in the immediate vicinity of Shanghai; and again a few miles northward, in fields near the city of Poushan, on the banks of the Yang-tse-kiang, where the yellow cotton abounds.

The Nanking cotton is chiefly cultivated in the level ground around Shanghai, where it forms the staple summer production of the country. This district, which is part of the great plain of the Yang-tse-kiang, although flat, is yet several feet above the level of the water in the rivers and canals and is consequently much better fitted for cotton cultivation than those flat rice districts in various parts of the country (such for example as the plain of Ning-po), where the ground is either wet and marshy, or liable at times, to be completely overflowed. Some fields in this district are, of course, low and marshy, and these are cultivated with rice instead of cotton, and regularly flooded by the water wheel during the period of growth. Although the cotton land is generally flat, so much so, indeed, that no hills can be seen from the tops of the houses in the city of Shanghai, it has nevertheless a pleasing and undulated appearance, and taken as a whole, it is perhaps the most fertile agricultural district in the world. The soil is a strong rich loam, capable of yielding immense crops year after year, although it receives but a small portion of manure.

The manure applied to the cotton lands of the Chinese, is doubtless peculiarly well fitted for this kind of crop. It is obtained from the canals, ponds, and ditches which intersect the country in every direction, and consists of mud which has been formed partly by the decay of long grass, reeds, and succulent water plants, and partly by the surface soil which has been washed down from the higher ground by the heavy rains. Every agricultural operation in China seems to be done with the greatest regularity, at certain stated times, which experience has proved the best, and in nothing is this

more apparent than in the manuring of the cotton lands. Early in April, the agricultural laborers, all over the country, are seen busily employed in cleaning these ponds and ditches. The water is first of all partly drawn off, and then the mud is thrown up on the adjoining land to dry, where it remains for a few days until all the superfluous water is drained out of it, and is then conveyed away and spread over the cotton fields. Previous to this, the land has been prepared for its reception, having been either plowed up with the small buffalo plow, in common use in the country, and then broken and pulverized by the three-pronged hoe, or, in those instances where the farms are small and cannot boast of a buffalo and plow, it is loosened and broken up entirely by manual labor. When the mud is first spread over the land, it is, of course, hard or cloggy, but the first showers soon mix it with the surface soil, and the whole becomes pulverized, and it is then ready for the reception of the cotton seed. Road scrapings and burnt rubbish are saved up with care, and used for the same purpose and in the same manner.

A considerable portion of the cotton lands either lie fallow during the winter months, or are planted with those crops which are ready for gathering prior to the sowing of the cotton seed. Frequently, however, two crops are found growing in the field at the same time. Wheat, for example, which is a winter crop, is reaped in the Shanghai district generally about the end of May, while the proper time for putting in the cotton seed is the beginning of that month or the end of April. In order, therefore, to have cotton on the wheat lands, the Chinese sow its seeds at the usual time amongst the wheat, and when the latter is reaped, the former is several inches above ground, and ready to grow with vigor when it is more fully exposed to the influence of sun and air. The Shanghai season; that is, from the late spring frosts to those in autumn, is barely long enough for the production and ripening of the cotton, as it is easily injured by frost, and the Chinese farmer is thus obliged, in order to gain time and obtain two crops from his ground in one year, to sow its seeds before the winter crop is ready to be removed from the ground. When it is possible to have the first crop entirely removed before the cotton is sown, it is much preferred, as the land can then be well worked and properly manured, neither of which can otherwise be done. The method of sowing one crop before the preceding one is ripe and removed from the land, is very common in this part of the country; and even in autumn, before the cotton stalks are taken out of the ground, other seeds are frequently seen germinating and ready to take the place of the more tender crop.

In the end of April and beginning of May, the land having been prepared in the manner just described, the cotton seeds are carried in baskets to the fields, and the sowing commences. They are generally sown broadcast; that is, scattered regularly over the surface of the ground, and then the laborers go over the whole surface with their feet and tread them carefully in. This not only embeds the seeds, but also acts like a roller to break and pulverize the soil. Germination soon commences, the seeds rooting first in the manure, which

had been scattered over the surface of the land. In some cases the seed, instead of being sown broadcast, is sown in drills, or patches, but this mode is less common than the other. The rains, that always fall copiously at the change of the monsoon which takes place at this season of the year, warm and moisten the earth, and the seeds swell, and vegetation progresses with wonderful rapidity. Many of the operations in Chinese agriculture are regulated by the change of the monsoon. The farmer knows from experience, that, when the winds, which have been blowing from the north and east for the last seven months, change to the south and west, the atmosphere will be highly charged with electric fluid, and the clouds will daily rain and refresh his crops.

The cotton fields are carefully tended during the summer months. The plants are thinned where they have been sown too thickly, the earth is loosened amongst the roots, and the ground hoed and kept free from weeds. If the season is favorable, immense crops are obtained, owing to the fertility of the soil, but if the weather happens to be unusually dry from June to August, the crop receives a check which it never entirely recovers, even although the ground, after that period, should be moistened by frequent showers.

The cotton plant produces its flowers in succession from August to the end of October, but sometimes, when the autumn is mild, blooms are produced even up to November, when the cold nights generally nip the buds, and prevent them from forming seed. In the autumn of 1844, this happened on the night of the 28th of October, when the thermometer sunk to the freezing point, and then ice was found on the sides of the canals and ponds.

As the pods are bursting every day, it is necessary to have them gathered with great regularity, otherwise they fall upon the ground and the cotton gets dirty, which of course reduces its value in the market. Little bands of the Chinese are now seen in the afternoon, in every field, gathering the ripe cotton and carrying it home to the houses of the farmers. As the farms are generally small, they are worked almost entirely by the farmer and his family, consisting sometimes of three or even four generations, including the old grey-haired grandfather or great grand father, who has seen the crops of four-score years gathered into his barns. Every member of these family groups has a certain degree of interest in his employment; the harvest is their own, and the more productive it is, the greater number of comforts they will be able to afford. Of course there are many cotton farms of larger size, where laborers are employed in addition to the farmer's family, but by far the greater number are small and worked in the way I have just described. It is no unusual sight to see the family goats, too, doing their share of the work. Several of these animals are kept on almost every farm, where they are, of course, great favorites with the children, and often follow them to the cotton fields. Although the children with their little hands can gather the cotton as well as their elders, they are not strong enough to carry it about with them, and it is amusing to see their favorites, the goats, with bags slung across their backs, receiving the

deposits of cotton, and bearing it home to the houses, evidently aware that they, too, are working for the general good.

However fine the crop may be, the Chinese are never sure of it until it is actually gathered in. Much depends upon a dry autumn; for, if the weather is wet after the pods begin to burst, they drop amongst the muddy soil, and are consequently much injured, if not completely destroyed. When the cotton reaches the farmyard, it is daily spread out on hurdles raised about four feet from the ground, and fully exposed to the sun. As the object is to get rid of all the moisture, it is of course only put out in fine weather, and is always taken into the house, or barn, in the evening. When perfectly dry, the process of separating it from the seeds commences. This is done by the well-known wheel with two rollers, which, when turned round, draws or sucks in the cotton, and rejects the seeds. It is a simple and beautiful contrivance, and answers well the end for which it is designed. The cotton is now sent to market, and a portion of the seeds are reserved for the next year's crop.

Early in the fine autumnal mornings, the roads leading into Shanghai are crowded with bands of coolies from the cotton farms, each with his bamboo across his shoulders and a large sack of cotton slung on each end. With these, they hurry into the town, for the purpose of disposing of them to the merchants, who have numerous warehouses from which they send the cotton to the other provinces of the empire. These coolies, or small farmers (for many of them bring their own produce to market themselves), are very independent in their dealings. Having reached the first warehouse, the cotton is exposed to the view of the merchant, who is asked what price he intends to give for that particular quality; and should the sum offered be below the owner's expectations, he immediately shoulders his load and walks away to another merchant. At this season, it is almost impossible to get along the streets near the sides of the river where the cotton warehouses are, owing to the large quantities of this commodity which are daily brought in from the country. It is bought up by the large cotton merchants, who empty it out in their warehouses, and then repack it in a neat compact manner, before it is conveyed on board the junks.

Before the cotton is converted into thread for the purpose of weaving, it is cleaned and freed from knots by the well-known process common in India. This is done by an elastic bow, the string of which being passed under a portion of the cotton, placed on a table, throws it into the air by the vibration which is kept up by the workman, and separates the fibre without at all breaking or injuring it. At the same time, the wind, caused by the sudden vibrations, carries off the dust and other impurities. After this process, the Chinese cotton is particularly pure and soft, and is considered by good judges not to be surpassed by any in the world. It is much superior to that imported into China from Hindostan, and always commands a higher price in the Chinese market.

Every small farmer, or cottager, reserves a portion of the produce of his fields for the wants of his own family. This, the female members clean, spin, and

weave at home. In every cottage throughout this district the traveller meets with the spinning wheel and the small hand loom, which used to be common in our own country in days of yore, but which have now given way to machinery. These looms are plied by the wives and daughters, who are sometimes assisted by the old men, or young boys, who are unfit for the labors of the field. Where the families are numerous and industrious, a much greater quantity of cloth is woven than is required for their own wants, and in this case the surplus is taken to Shanghai and the adjacent towns for sale.

When the last crops are gathered from the cotton fields, the stalks are carried home for fuel. Thus every part of the crop is turned to account; the cotton itself clothes them, and affords them the means of supplying themselves with all the necessaries of life; the stalks boil their frugal meals; and the ashes even (the remains of all), are strewed over their fields for the purposes of manure. But even before this takes place, the system I have already noticed, of sowing and planting fresh crops before the removal of those which occupy the land, is already in progress. Clover, beans, and other vegetables are frequently above ground in the cotton fields before the stalks of the latter are removed. Thus, the Chinese, in the northern provinces, lengthen by every means, in their power, the period of growth, and gain as much as they possibly can from the fertility of their land. The reader must bear in mind, however, that the soil of this district is a rich, deep loam, which is capable of yielding many crops in succession without the aid of a particle of manure. Nature has showered her bounties on the inhabitants of this part of the Chinese empire with no sparing hand; the soil is not only the most fertile in China, but the climate is capable of rearing and bringing to perfection many of the productions of the tropics, as well as the whole of those found in all the temperate regions of the globe.

VALUE OF PEAT ASHES AS A MANURE.—Peat ashes, or those made of common turf, or sod, are of much greater value than is generally supposed; though the common practice of allowing the peat to burn until it becomes a heap of white or reddish ashes, is both wasteful and erroneous. The fire should be carefully attended to by starting it first with a few dry sticks, weeds, or straw, and then adding fresh dried peat, or sod, so that the heap is only slightly charred, which completely decomposes the acids present, and the whole will be converted into a most useful manure.

UTILITY OF WASPS AND HORNETS.—Reaumer states that the French butchers are glad to have wasps about their stalls for the purpose of driving away the blow flies. In our own country, both wasps and hornets do great service in destroying vast numbers of tormenting flies and moths.

A NEW FERTILIZING COMPOUND FOR GRASS LANDS.—Muriate of ammonia and common salt, mixed in equal proportions, and applied at the rate of 400 or 500 lbs. per acre, have produced the best results.

LETTERS OF R. L. ALLEN.—No. 5.

Domestic Stock in the South.—Throughout a large portion of the southern valley of the Mississippi, and the country east and west of it, little attention is paid to the breeding and rearing of domestic animals. There are several substantial reasons for this, and some *causes* which are not reasons.

Where sugar can be made a profitable crop, there is no doubt of the propriety of keeping the fields, and force, and capital employed in this object, to the exclusion of all stock breeding, excepting such cattle, sheep, and swine, as can be conveniently reared on the premises, and are necessary for the supply to the plantation in working oxen, milch cows, wool, and fresh meat. Such can find an ample range in the unclosed grounds in the rear of the cultivated fields, which are generally suited to their thrift; or when wanted nearer home, they have cleared inclosures that may be stocked with grass or other green forage. By a little attention to this object, a large amount of money may be saved, annually, to the plantation, and the necessities or luxuries afforded by the domestic herds, will be always within reach. Oxen may be used for a part of the season, with decided economy and advantage; but generally, mules are the only reliable sources for brute labor. These cannot be so advantageously reared on the plantation, as in the more northern states, Tennessee, Kentucky, Ohio, &c.

The same observations hold true with regard to the cotton planters, located on the delta lands of the Mississippi and its tributaries, below latitude about 36°. Cotton, on such lands, is not only a remunerating crop, but the temperature, and the low swampy lands, which abound here, are not favorable to that full and vigorous development of the animal system, which is essential to the highest thrift, and the perpetuation of a prolific and hardy progeny. Such, at least, is my opinion, and though many may be disposed to dissent, and cite numerous examples partially refuting the position, I yet believe it to be substantially true as a general principle.

The high and rolling lands, reaching even as low as the gulf coast, are not liable to these objections, except with some limitations. Cattle thrive comparatively well here, when properly acclimated; and there are many descendants of the ancient Creole stock, the indiscriminate mixture of the early Spanish and French importations, which show much substance and stamina. But the northern and western cattle, several fine specimens of which I have seen here, are subject to numerous diseases, and many of these prove fatal the first season. How far these difficulties to the improvement of the race, by the introduction of choice foreign stock, can be obviated, remains to be seen. Peculiar care and attention may remove or mitigate some, but there are probably others which will bid defiance to human skill.

The native cattle exhibit some odd specimens of bovine organization. They illustrate, in a peculiar manner, the operation of those high-sounding phrases, "liberty, equality, and fraternity," which have recently become quite the rage across the water. They are mostly dun, speckled, black, brown, or marked with large patches of black, or dark colors,

and white; and sometimes are of that pied, or mealy color denominated *calico*, or *pumpkin and milk*. They are of all sizes, shapes and features; some very trim and well made, while others are big-headed, bull-necked, sway-backed, and cat-hammed. I have seen here what might have stood for the exact original, in shape and feature, of the supposed caricature, illustrated in Vol. i. page 331 of the *Agriculturist*. With increased size, many of the cows would not prove bad specimens of the ox, and they might be judiciously applied to his duty, as they are certainly unfit for any other. Herds of these animals, kept in the suburbs of this city, numbering 50 to 60, would hardly furnish as much milk, as many I have seen in the north of 10 or 12. Some of them yield scarcely more than a large goat, though the milk is richer than where it is more abundant.

Cattle are raised in great numbers on the Opelousas prairies, west of this place. Some proprietors number as high as 5,000 in a herd, which roam over these wild meadows with even less restraint than did those of Abraham and the patriarchs. They depend on the season and climate alone for their food and shelter, and, consequently, like other nomadic tribes, frequently suffer great hardships and fatalities. Although they afford ample safeguards against want, yet they are seldom the means of pecuniary gain to their owners. They are entirely within the control of the latter, whenever they choose to exercise it, owing to their habitual skill in this wild herdsman'ship. It is the pride and glory of these border Rob Roys, to throw the lasso with that skill and accuracy which will unerringly secure the object sought. They not only single out the particular animal they wish to secure, but it is a point of honor with them to secure him in the precise manner they previously indicate, and at will, attach the lasso to the horn, or either leg, when he is easily thrown and secured. If some sturdy bullock, however, get the weather-gage of the huntsmen, or contrive to hold the long end of the lever, the unlucky Nimrod will suffer himself to be trailed through mud and mire to the annihilation of all his dress, and no little hazard of his bones, rather than suffer defeat.

The blood horse has been reared here, even upon the low lands, and has proved himself superior both in speed and bottom; but his parents were imported, and it yet remains to be proved how far he will retain these traits when bred on the delta lands for successive generations. With this exception, there is very little attention devoted to the rearing of horses. Most of the serviceable animals, both in the city and country, are imported from the north and west. The remainder are mostly such tackies as are bred at hap-hazard by the Creoles, from anything within their reach, and apparently, from such as are fit for nothing else. Many of these are descended from the wild horses, or have been caught themselves from the hordes abounding on the Texan prairies. But the very fact of their capture proclaims their inferiority, as the mode of catching them, by pursuing with the ordinary subjected beast, shows them to be of very inferior mettle. When taken, as is sometimes done by inclosing them among the precipices surrounding some favorite watering place, choice animals

may be secured; but the valuable horses thus captured, are usually sold to such as place a high value on them, and the blood of their progeny is not permitted to flow among the plebeian veins of the common herds.

There is the same diversity in shape, color, and characteristics among the native horses of this region, as among the cattle. They are indifferently broken, and have a shuffling, scrambling kind of pace, or a short, scattering canter, which soon pumps out the little wind they have. Our worthy schepens of this city, permit the largest liberty in the exercise of horse flesh within their precincts, and the consequence is, numerous exhibitions of solitary scrub racing, where the diminutive quadrupeds scamper over the pavements at the top of their speed, which after all, is so moderate as to be attended with little danger to pedestrians.

Of swine, I have seen few here. Some of these are very good, but there is no want of such as are otherwise. They are reared almost entirely for fresh meat, as the climate opposes an effectual barrier to curing it with safety. Could the meat-pickling apparatus be perfected, so as to be successfully applied here, it would save immense sums to the planters, which they are now obliged to expend for their supplies from abroad.

Sheep abound on most of the plantations, to the extent, at least, of furnishing an ample supply of fresh mutton. They are usually large, hardy, coarse-woolled animals, nearly identical in appearance, with the northern sheep previous to their improvement by the introduction of the Merino and best English sheep. They seem to thrive well, on the luxuriant white clovers, and other pastures which abound here, and yield a fine, though never very fat, carcass of excellent mutton.

New Orleans, April 17th, 1848.

CHEESE MAKING.

I HAVE heard a great deal about the value of prairie grass for butter and cheese. And yet I heard a Hamburg friend of mine say, a few days ago, that he had engaged to send all his cheese this season to Chicago, at a pretty round price. Why is this? If the grass is really good for anything, in that region, why is it that cheese is not made there by the million? Surely it is not an art very hard to learn. If the pages of the American Agriculturist alone were carefully examined, I think that directions enough might be found to enable any person to make a good cheese. In fact the valuable information given in this publication, at p. 233, vol. vi. might alone be sufficient, and worth ten times the cost of the whole set of this paper.

How cheap knowledge is offered to the million now-a-days. And in no department of rural economy is the need of increased knowledge more apparent than in cheese making. SOLOMON ROBINSON.

Crown Point, Lake C. H., Ia., }
March, 1848.

IMPROVEMENT OF GUANO.—If the farmer possess a genuine sample of Peruvian guano, he can much improve its quality by the addition of a little plaster of Paris (gypsum), or powdered charcoal, both of which substances have the property of absorbing free ammoniacal gas.

HOT WATER FOR TREES.

In the April number of your paper, I noticed a remark on the experiment of pouring hot ley around the roots of a peach tree, and the good effects that followed. To many of your readers this must seem a *fatal* remedy, and have a place assigned to it with the wild eccentricities of the age; but, as to myself, I am sanguine in the belief, that, if it has not produced the good result alluded to, it would do so with proper and timely application; because, it is known now that ley is an excellent wash for trees, cleansing them from external insects, and causing the bark to assume a young and vigorous appearance. I think so, because I have heard of the good effects of scalding water poured upon the ground around trees. I am more than all confident that truth rests in the matter, from the fact that I have tried a somewhat similar experiment with perfect success.

The particulars in my own case are as follows:—Some years ago, when shade trees were not so common as they now are (I wish for the comfort of the many that they were more common at the present time), I happened to be in the garden of a friend about the time of the expanding of the leaves, and saw in one of the borders a few locusts of from two to four feet high, which, as he said, he was going to eradicate from his grounds, simply because, as soon as they attained a certain size, they were destroyed by the borer, and then the roots threw up a multitude of shoots in all directions, and caused him much trouble, as well as vexation of spirit. With permission I took up several of these shoots, though he forewarned me of labor lost, and transferred them to my grounds. Probably, I brought the rudiments of the borer with them. At any rate, they were there in such numbers, that their gnawings almost made me gnaw with rage. Actuated, no doubt, by a spirit somewhat congenial to that of the old lady, when she concluded to forestall the deadly workings of the peach worm, I boiled water in a tea kettle, and poured it *boiling* hot from the spout carefully over the trunks of these young trees, taking due care, where I could, to fill every worm hole. The result was, I did not kill one tree; but the borers were all killed, or ran away—I do not know which. None have ever reported themselves as wounded—none ready for service, unless, indeed, it were an occasional fugitive at the extremity of some unfortunate branch. But the trunks have never been troubled since, and those trees, now assuming the venerable appearance of age, have rewarded me many times by their fragrant flowers and beautiful foliage for the little vexation I endured and the scalding water it required. Why may not the peach worm be ousted in the same way?

Since I am upon the locust, the inquiry occurs to me why is not this tree, so ornamental for shade, so rapid of growth, and so valuable for timber, more generally cultivated? Twenty years, in New England, as cold as her climate and as hard as her soil are, give it a good degree of perfection. Farther south, a less period will no doubt give it growth enough to render it valuable for timber or for fuel. But if cultivators would succeed well with it in regions where the borer infests it, I should say, avoid pruning. In my own experience I attribute the non-recurrence of the borer to the fact, that I let

all the branches grow; and under the weight of summer leaves, they completely shade the trunks, keep them cool, and it may be, in this way, prevent the return of their deadly foe. WM. BACON.

Richmond, Mass., April, 1848.

HOW TO BREAK A COLT—A TRUE STORY.

"GEORGE," said a father to his son, "that stout, four-year-old colt of ours has thrown off every one who has dared get on his back, and the man I last employed, says it is quite impossible to do anything with him. So you may sell him for what you can get, taking good care to state these facts."

The next day, George took the colt and led him into a soft, spongy meadow, and suddenly sprang on his back, upon which, he reared up, plunged, kicked, jumped, sprang forward, then sideways, sinking into the mud over his fetlocks, and sometimes up to his knees and gambrels, and when he found that he could not succeed in throwing his rider, he stopped and shook himself like a dog after coming out of the water. This last performance was a poser for George; but like the fellow who signed the temperance pledge, he "stuck to it," until the colt started for the road, when, on he went, full speed, with his mouth wide open, running until he became quite exhausted. Shortly after this, he put him about, walked him home, rubbed him dry, gave him a little green grass out of his hand, with some water, and ever afterwards, a better horse was never backed. A TRAVELLER.

REVIEW OF MARCH NO. OF THE AGRICULTURIST.

Cultivation of Melons.—Any one can raise melons, if he has the kind of soil described by you, as most suitable. But can you give directions that will ensure a good crop of melons upon a strong clayey soil? [Yes. Make a mound of sand, or light gravel, on top of the clayey soil, five feet wide at the base, two feet wide at the apex, and one or two feet high; which may be enriched with any kind of manure most convenient to be got. If sand, or light gravel, is not to be had, then early in the fall, mound up the lightest part of the top of the soil you can find, and enrich this with horse manure, guano, poudrette, and the leaves of trees. Horse manure is, perhaps, the best, and one of the most lasting fertilizers that can be used in a stiff, clayey soil, as it pulverizes and lightens it in a very superior degree. In this manner, we have been uniformly successful in growing the finest kinds of melons on a cold, stiff, clayey soil. A mound of sods, as you propose, is an excellent plan, and would probably be rich enough without manure.] My own recommendation to those who have such a soil, would be to raise melons upon an inverted Timothy sod. If anybody can give a better one, let him speak, and promote the cultivation of this most excellent and health-promoting luxury. Let every farmer cultivate melons, one of which is worth a bushel of nasty cucumbers.

Race between Eclipse and Sir Henry.—I have nothing to say against this interesting article, not even, that the room it occupies, might have been better filled with matter more directly appertaining to agriculture; because, I believe every agricultural paper, in order to be useful, must fill a

portion of its pages with matter more pleasing to the general reader, than dry essays upon this subject. But I must say, that I look upon modern horse racing, as anything but promotive of the great farming interest. I do think that breeding from the present racing stock of this country, will deteriorate the breed, and render it unfit for all farm purposes. I greatly prefer to see such horses encouraged among the farmers, as the Cleveland Bay, Messenger, Bellfounder, or Morgan horse, than a hundred others that I could name, which have nothing to recommend them, except that their sires once won in a race. [In the main, we agree with you in these observations; though where a thoroughbred is *stout enough*, and of the *proper conformation*, we should always prefer him for a stock horse. Imported Messenger, and some others we could mention, were thoroughbreds; yet it is to these horses that America traces the blood of her best road stock of the present day—a stock that we think unrivalled the world over.]

How to Render Night Soil Inodorous.—Nothing can be better than the burnt earth and fine coal, left from the burning of a common wood coal pit, which is often procurable in the country, at no other cost than the hauling. Spent tan bark, will also answer. How easy to keep one of these articles on hand, and thereby totally prevent the intolerable smell often attendant upon farm houses. [Those who cannot conveniently obtain burnt earth, or charcoal dust, can *deodorize* their night soil by mixing with any of the following substances:—Wood ashes, or plaster of Paris; the sulphates of iron (copperas), lead, copper, zinc, or tin; the chlorides of iron, manganese, copper, lead, zinc, tin, sodium (common salt), or lime; the nitrates of lead, copper, zinc, or tin; pyroligneous acid; pyrolignite of iron; or the mother waters arising from the manufacture of any of the before-enumerated substances; coal tar, or schistous and bituminous extracts. Of these, the preference is given to the sulphates and chlorides of iron, and the nitrate of lead.]

Directions for Sacking Wool.—This is merely a direction as to the manner of performing the work. But as it is intended for new beginners in the business, it should also have stated, that the wool should be sorted into three parcels, as to fineness of fleeces, as near as possible, so that the fair quality of the whole may be judged, as well by examining one end of the sack, as the whole.

Keeping worthless Dogs.—"Let him that is guiltless, throw the first stone." Nobody will be hit.

Prepared Guano.—"Let all trades live." And among the rest, the humbug trade.

Letters of R. L. Allen, No. 2.—Mr. A. says that he believes the readers of this paper, in the south, are desirous of improvement in the manner which agricultural work is carried on in the north. No doubt of it. But, unfortunately, not one in a hundred is a reader of this, or any other agricultural paper. And the question is, how are the other ninety-nine to be induced to read. For my part, I cannot devise any plan; and, therefore, I see no way to prevent so many ruined plantations staring us in the face, throughout the whole of the southern states. They don't read, and they don't know how to maintain the fertility of the soil. It must wear out, and be

abandoned for a new location, in the states farther west, which, in turn, will be worn out, until the tide has reached the Pacific and turned back.

Employment.—It is not because the "robust farmer" is employed, that he "bemoans his lot;" but because, in a great majority of cases, he is compelled to continued, incessant toil, for a bare support of himself and family, while he sees, not only "his wealthy neighbor," "surrounded with more splendor," but a vast number of idlers, without any visible means of support, setting a mischievous example to his own children, who are induced to think that the only true source of happiness, is in having no employment. I agree with the writer, that employment promotes happiness, but it is hard to convince the laboring man that such is the fact.

A Cheap, Portable Fence.—I do not think that this kind of fence is so cheap, or portable, as the "ladder fence." If I were to use boards for a fence, as hurdles, I would nail each panel upon battens, and put them up without posts, by setting them crooked, and fastening the panels together with hooks. For one, I am free to say, that I do not think that Mr. Hardeman's plan is so good as several others that I have seen.

Facts in Farming.—Why will ye not hearken unto facts like these, and profit thereby?

Fences a Direct Tax to the Farmer.—I am glad to see that I have got one other champion in this good cause. This article of our old friend Mr. Robinson, is a most conclusive one. Let me repeat, "Farmers, think of it." I cannot say more.

Galloway Cattle.—What do we grow horns for? and if the "hornless cattle should be bred in remote districts," why should they not be bred in near districts? Cattle horns never yet sold for enough to pay the cost of growing, to say nothing about the mischief they do. It is the universal opinion among all who have ever paid attention to the subject, that polled cattle are more healthy, and more easily raised, than those with horns. As it is not fashionable, nor useful, in these latter days, to "take a horn," and as we have quit the use of "horn spoons," I vote for quitting the growing of such a useless appendage upon the heads of our oxen, bulls, and cows.

Seasoning and Preserving Timber.—If the sills of a mile of railroad can be rendered almost as imperishable as stone, for \$500, it is passing strange that the process is not universally adopted. So of all bridge timber, as well as sills of buildings, &c. Pray, let us hear more of this very important subject.

Wool Growing in Texas.—Mr. Marsh says that he commenced business with "twelve Mexican ewes and one buck." Now I want to know what sort of sheep these Mexicans are? If they are as much of a mongrel breed as the people that I have seen at Tampico, Vera Cruz, and other Mexican ports, I want none of them. But perhaps they may be of the pure old Castilian stock, and well worth the attention of gentlemen in other southern states. Will Mr. Marsh give us more details? The increase of the flock has certainly been such as astonishes us way off here among the rocks and hills, ice and snow. Do the ewes have two lambs a year? For in no other way can I make

out how 12 could increase to about 300 in five years.

Technical Words Complained of.—This complaint arises from a very great fault in nearly all the schools of the country. *Children are seldom taught the meaning of words.* Whole pages are committed to memory, but ten to one, if the child is ever asked if he fully understands the meaning of the words repeated. Until there is a radical change in the system of instruction in common schools, it would be useless for any competent person to furnish the articles recommended by the editor, giving explanations of these "hard words." For few, if any teachers, would use the paper in school. I have repeatedly tried to get agricultural papers introduced into our district school, as reading books, where every child's father was a farmer; but found so much opposition to it, that I had to give it up. I still hope for better things; and that farmers will yet see the necessity of educating their children in such a manner, that, when they read the names of substances which should occur in every day conversation relative to farming, they will not pass them over as unknown, and to them unmeaning "hard words." REVIEWER.

CISTERNs.

As to cisterns in your country, and in the far west, alluded to by Reviewer, at page 375, I cannot say; but I do know that a cistern in many parts of Mississippi, will save in physic and doctors' bills, in one year, the whole price.

I believe I speak in due bounds, when I say, there are some families who have not one third the sickness now, that they had when using other water. My cisterns are sixteen feet deep, plastered on the clay walls; one of them has a brick arch, with full three feet of earth upon it, to make the earth around it level.

I wish Reviewer could persuade every one to abolish tea and coffee. I now think many are ruined by them; I myself, for one, no doubt, am a fair specimen of what tobacco, coffee, and tea can do. May he live until he is as grey as a rat, and as old as Methuselah, if he can only be always happy, cheerful, and useful.

The peach-tree borer, I hear people talk about in these parts; but really, I do not see any use in this.

I have now here, of standards, full 1,200 trees, and some 4,000 more young trees, and I have no sort of thought that I will lose one tree in a year from the borer. Land that is rolling enough to take off surplus water, well cultivated, rich, and with proper ingredients, lime, especially, will grow peach trees in this latitude—worm or no worm. I have cut the worm out, four feet above the earth, and I have trees here that are 15 to 17 years old. I can show trees in this neighborhood, neglected all the time, that bore fruit 17 years ago. The time taken up in catching the flea to poison him, would be better made use of in preparing the earth to grow the tree vigorously.

We all know that the cotton plant is subject to the cotton louse all the year, the growing part, of course. But who ever complained of the louse when the season was warm, and the plant growing?

Cotton planted too early, becomes stunted, and the food required by the lice, destroys the plant. Do not worms injure a puny, half-raised baby? And does not a hearty, robust babe keep hearty in spite of the worms? I believe one half the *negroes at least*, in this country, have worms, yet none are injured, unless a dirt eater, or an old ague subject. I have known hearty persons pass worms.

I am told that sulphur inserted into a small hole, and then plugged up, will certainly drive every caterpillar off. Is it so? [No.]

M. W. PHILIPS.

Edwards, Miss., April, 1848.

MANUFACTURE OF NAVY BUTTER FOR FOREIGN STATIONS.

THE manufacture of butter for the navy of the United States on foreign stations, requiring 60,000 lbs. annually, having been brought to the notice of the Executive Committee of the New York State Agricultural Society, they deem it of sufficient importance to our dairymen to investigate the subject. In the proposals issued by the bureau of provisions and clothing of the navy department, in describing the quality of butter to be delivered, it is said, "the butter must be of the description, quality, and manufacture of the present navy butter, made in the mode of *Irish rose butter*." The milk must be thoroughly worked out, and the butter cleansed of all impurities, and extraneous substances, and be put up in seasoned, white-oak firkins, containing about 80 lbs. each, well and strongly hooped, so as to be perfectly air and pickle tight. Persons offering proposals are required to produce satisfactory evidence that their butter will stand the test of tropical climates, and preserve their sweet and wholesome qualities for years, &c."

On inquiry, it was ascertained that the butter, which has been furnished under this contract, has usually been what is called Orange county butter; and the gentleman who has special charge of this department is of opinion that *no butter made out of Orange county* will resist the action of tropical climates, and preserve its qualities for years. From the statement in the proposals that the butter was to be made "in the mode of *Irish rose butter*," it was deemed important to ascertain how *Irish rose butter* was made (if there was any such butter), of which the committee were entirely uninformed. The secretary opened a correspondence with gentlemen in Liverpool and Ireland in relation to this subject, and a portion of the result of the correspondence is hereunto annexed.

The question, *whether all the butter to be used on distant foreign voyages*, and on foreign stations, by the military and commercial marine, *must be made in the county of Orange*, becomes more and more important, as our commerce annually extends. It is doubtless true that the soil and climate have an influence upon the quality of the butter. The grasses in particular localities are better adapted to the production of a superior article than in others; but it has been supposed that the region peculiarly adapted to the production of good butter in this state, instead of being confined to a *single county*, extends to quite a number of counties; and it is not believed that there is any such peculiarity con-

nected with Orange county as to give it pre-eminence over other counties in the Catskill Mountain range, and some other localities in the state.

It has been the object of the society to ascertain what localities are best adapted to the dairy, and for that purpose liberal premiums have been offered, requiring a minute and careful detail of all the circumstances connected with the soil, climate, water, grasses, &c., so that it might be ascertained what locality is best suited to the dairy; and it is hoped that such results will be arrived at as will reasonably demonstrate all that is desired.

In the geological survey of this state, particular attention was given to this subject, by one of the geologists, Professor Mather, of the first geological district, which included the counties of Washington, Saratoga, Schenectady, Schoharie, and Delaware, and all east and south of this line in the state. In speaking of the agricultural character of the Catskill division, he says,

"This country is admirably adapted for grazing, both for cattle and sheep, and the fine sweet grass and cold springs, offer as great facilities for making excellent butter as the world affords. A *large proportion* of the butter sold under the name of *Goshen butter*, which is celebrated for its superior qualities, is made in the mountainous region of *Delaware, Sullivan, Ulster, and Greene counties*."

There are several other counties in this state, where butter of the very best quality is made, which has stood the test of tropical climates, and some of the butter from these counties commands as high prices as any in our markets. From their geological character we should expect this. There can be no doubt that the butter from a great number of localities in the state will prove equally serviceable as from any of the counties of the Catskill Mountain range, if the same attention is given to its manufacture as is given by the best Orange county dairymen, and reference is made to the extracts from letters from several butter dealers in New York, which clearly establish this.

From the county of Chenango, a contract was made, in 1847, by way of experiment merely, for ten thousand pounds for the use of the navy. The butter under this contract has been delivered and inspected, and the gentleman who inspects butter for the navy, on examining and inspecting this lot, speaks of it "as excellent butter, for *Northern New York butter*, but also *speaks of the inability of any butter* to stand the test of foreign climates and time, *that was not made in Orange county*." This is the opinion fully entertained, we are assured, by all the gentlemen of the navy department who have charge of this bureau. It is of vital importance that measures be taken to correct this error, if error it be, as the opinion is honestly entertained.

By the contract which is made for the manufacture and delivery of the butter for the navy, it is provided that it "shall be made according to the most approved *Irish method*; the milk to be thoroughly worked out and the butter cleansed of all impurities, &c." Not a word in the contract about *Irish rose butter* which is prominent in the proposals for contracts. Why was this so drawn. Was it to prevent those who never heard of *Irish rose butter* who might otherwise have been inclined to offer proposals, not to do so, being ignorant of how *Irish rose*

butter was made?" It is presumed it must have been inserted through inadvertence on the part of the persons preparing the notices. But from whatever reason it was inserted, its effect has been, beyond all question, to prevent persons from offering proposals, who otherwise might have done so. Inquiries have been made at the rooms of the society for information as to *Irish rose butter*, but no person in this section of the state could give any information on the subject, and from the correspondence from Ireland, it seems equally difficult to give any account of it in Ireland itself. A letter from Cork, where the butter for the British navy is purchased and inspected in open market, says: "The term 'rose butter' we know not the derivation of." "There is only one description shipped here, and all is brought in for inspection to a public market in this city."

A correspondence was opened with Brown, Shipley & Co., of Liverpool, an extensive mercantile house engaged in the American trade, and letters have been received from them on the subject of *Irish rose butter*, and of the method of manufacturing butter for the British navy. This is manufactured chiefly in the counties of Cork, Limerick, and Kerry, in Ireland.

Extract of a letter received by the firm above referred to, from Clonmel, Ireland, dated July, 1847, answering their inquiry about *Irish butter*:—"We are this morning in receipt of your favor of 29th ult., and in reply, we give you all the information we can, as to how butter is manufactured in this neighborhood. Our best makers have large, airy, cool dairies, and churn twice or three times a week, which depends on the heat of the weather. Caution must be used not to allow the cream to be too long in the tubs and pans, or until it gets sour, as the butter will then be inferior and what is termed *cheesy*. The buttermilk must be well washed out of the butter, and when salted, be packed firm into the firkin. These, with great cleanliness, are the principal things to be looked after in the manufacture, otherwise your butter will not keep its quality. The quantity of fine salt is 3 lbs. to the firkin, containing about 65 lbs. The butter in this district is made expressly for the London and north of England markets; in the former, at certain periods of the year, it takes precedence of the Dutch. We never heard of *rose butter*, but we know one of the Waterford houses brands the best quality he ships with a rose. The navy is supplied with butter exclusively from Cork, where a larger quantity of salt is used in the manufacture, and where it is made up expressly for foreign exportation."—*Transactions*, for 1847.

SPENT TAN BARK MAY BE EMPLOYED AS A MANURE.—This substance can easily be dried and converted into charcoal, in a similar manner as recommended for charring peat. It may then be mixed with night soil, answering both the purpose of drying and rendering it fit for carriage, at the same time absorbing all the ammonia, &c. It may also be mixed with urine, or with animal manure of any kind for similar purposes. Tan bark, in an uncharred state, is of no immediate value as a manure, in consequence of the gallic and other acids it contains.

DOES WATER IN RUNNING THROUGH LEADEN PIPES BECOME POISONOUS AND UNFIT FOR USE?

In the March number of the *Agriculturist*, page 101, it is stated on the authority of the "*Christian Citizen*," that several persons of Worcester, Mass., have suffered, during the past year, from the use of water pumped from wells through leaden pipes. I notice also that lead pipe is advertised for sale in your May and June numbers for hydrants, pumps, &c. As I am desirous to put up a water ram on my place, I wish to know whether there is any mode of preparing lead pipe, by covering, or otherwise, so as to render it secure from the danger referred to above.

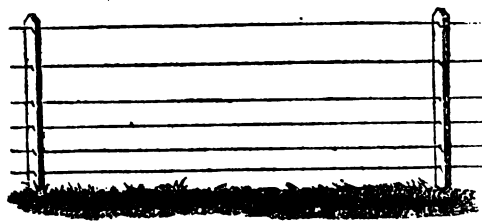
R.
Merrimack Co., N. H. June 2d, 1848.

The poisonous nature of lead, when imbibed by man, or animals, is too well known to require a lengthened description here. For it has been proved, by direct experiment, that pure water, containing much atmospheric air, carbonic acid, and some other foreign substances, has the power of corroding it and dissolves the newly-formed oxide, and that, the longer water thus contaminated, remains in contact with the lead, more especially if the air has free access, the more lead will be dissolved, and the water, of course, will become more poisonous. The leaves of trees, and in fact, any other organic matter, in a state of decay, have a tendency, more or less, to induce the same effect. But river, well, or spring water, containing, in solution, $\frac{1}{100,000}$ th part of phosphate of soda, or iodide of potassium, exerts no such influence. The pipes, in contact with such water, gradually become lined with a superficial film of an insoluble salt of lead, which adheres tenaciously, and no further change takes place. Many other neutral salts act in a similar manner, among which are the carbonates, phosphates, sulphates, chlorides, and iodides; their power being in proportion to the relative insolubility of the compound which their acid is capable of forming with lead. Hence, ordinary water, which abounds in mineral salts, may be safely conducted through leaden pipes; but distilled and rain water, or water that contains scarcely any saline matter, such as often occurs in wells, springs, streams, and lakes, in a purely granite region, speedily corrode and dissolve a portion of lead whenever brought into contact with it. In all such cases, leaden pumps, cisterns, and pipes should be coated with tin, inside and out, which will render them perfectly secure from injurious effects.

We should have observed, that the poison of lead differs very materially from most other substances called poisonous. It is not what is denominated an active poison, and is not accompanied by any particular symptoms, except when introduced into the system in considerable quantities. On the contrary, the salts of lead may be ranked among those insidious substances, which are taken without any peculiarity of taste or smell, but which, when gradually introduced into the system, by minute quantities at a time, will eventually produce paralysis, swollen fingers and wrists, followed by that dreadful disease, termed the "*painters' cholera*," and finally premature death.

WIRE FENCES.

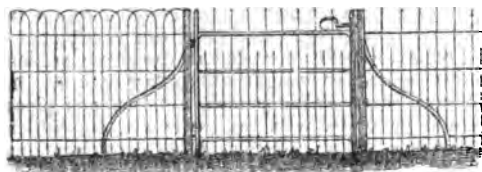
THE superiority of wire fences consists in their strength and durability, lightness and appearance; adaptation to almost every situation and purpose, for which fencing is required; the facility with which they can be erected or removed; and their perfect efficiency as a barrier against cattle, horses, sheep, &c. The economy, also, of their erection, in many cases, even in the first cost, together with their durability, recommends them to general use in all situations where other fencing materials cannot conveniently be obtained; and when made of wooden, instead of iron pillars, or posts, they can often be built at about the same expense as those made entirely of wood.



CATTLE OR SHEEP FENCE.—FIG. 55.

One important property connected with these fences, and which constitutes their peculiar character, is their elasticity. They yield but little to pressure; yet, as soon as it is removed, they resume their former position without sustaining the least injury therefrom. The principle of tension renders them strong and sufficient for every pressure, or ordinary purpose, for which any fence for horses, cattle, and sheep is required. It must be some extraordinary force to injure them, to which fences are not usually liable, and even when thus accidentally broken, they can quickly and easily be repaired at a trifling cost.

Fig. 55, denotes a section of common cattle and sheep fence, with wooden uprights, or posts. Price, \$1 per rod. Cost of the same, with iron posts and uprights, from \$1.50 to \$2 per rod.



RABBIT FENCE.—FIG. 56.

Fig. 56, shows two sections of rabbit fence, with a gate, constructed entirely of iron. It will also serve the purpose of guarding against the encroachments of ducks, geese, small pigs, sheep, goats, and calves, and of confining them within proper bounds. Prices, from 75 cents to \$1.50 per running foot.

AN EGG FACT.—It has been stated on high authority, that clear, or unfecundated eggs (that is those produced without any connection with the cock), will keep sound longer than those that would be productive.

SUPERIORITY OF WOOL MATTRESSES.

THE object of this communication is, to show that wool mattresses are the warmest, the most luxurious, the cheapest, and the most economical of any in use; that they are the healthiest for men, women, and children, of all ages and sexes; and that man recovers much sooner from fatigue, on such a bed, than on any other.

The Romans used to sleep in the day-time, and had particular rooms for that purpose, distinct from their bed chambers, where they slept at night. In Italy and some other southern countries, that practice has still been continued even up to the present day. Hence it is of the utmost importance what kind of bed they lie upon, whether it be hard or soft; for, the harder the bed, the healthier they are. In the old accounts of the court of England, there is a charge on a journey for so many bundles of clean straw for the queen's bed. Then, it was said, when men slept on straw, with a log of wood for a pillow, they were "men of iron;" but now, they sleep on bedsteads of iron, beds of feathers, and pillows of down, and often are known as "men of straw."

Wool mattresses are hard and firm, and at the same time, yield sufficiently to the pressure of our bodies to form an agreeable and luxurious resting place, without leaving marks on the skin, as other mattresses often do. The fibres of the wool, of which they are composed, touch each other so slightly, that heat or cold moves slowly through the interstices, and causes it to retain its temperature better than any other material.

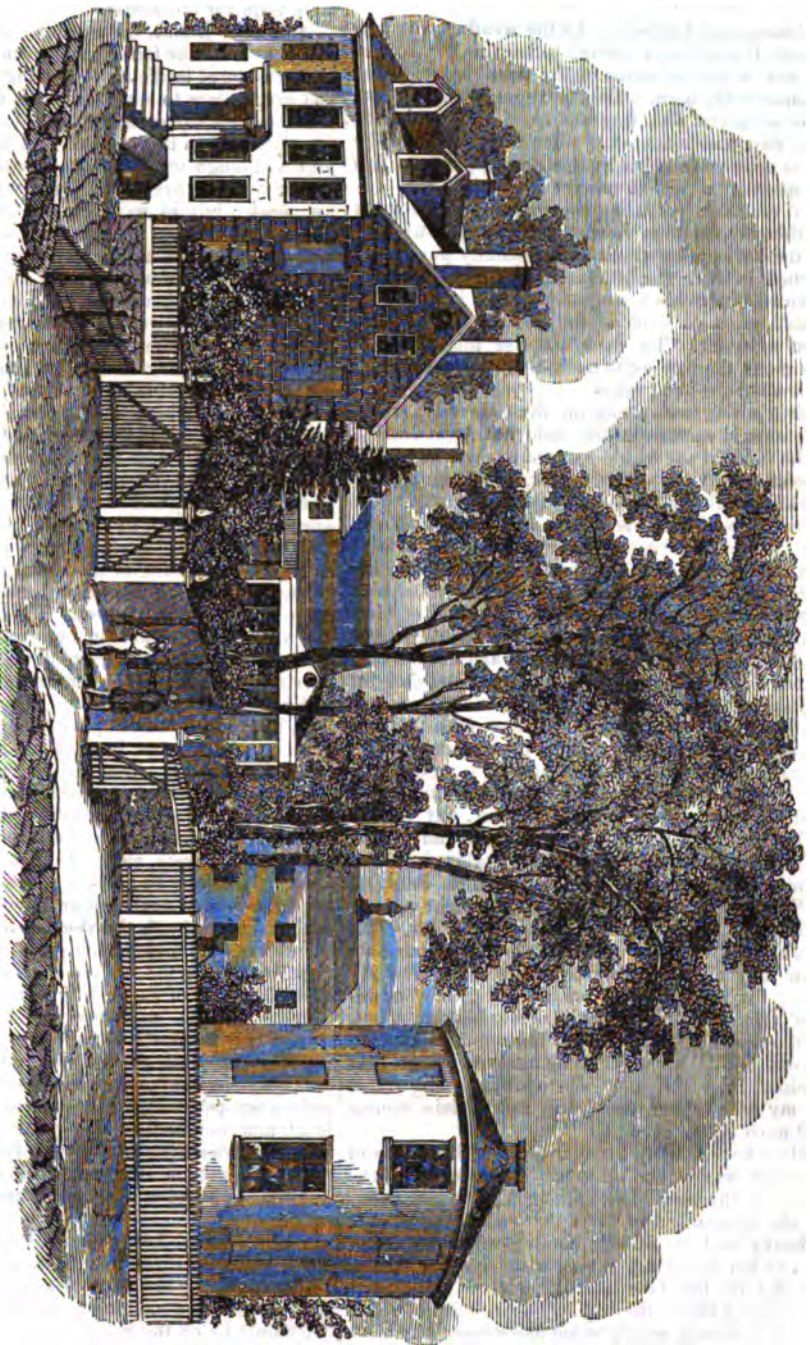
A good healthy bed should absolutely be flat. Hence all bedsteads should have wooden laths, instead of sacking, or cords, which always give to the bed a hollow form. The best bed I ever slept on contained 60 lbs. of finely-carded wool, but its size was extra large; half that quantity will make a comfortable small bed; but if you wish to lie luxuriously, yet hard, do not stint the wool. A bed of this kind will last forever, as the covering need not be washed but once a year, when the wool should be re-carded, with a few pounds more added, and the whole will be as sweet as new.

Another object in this communication is, to show that the general adoption of wool mattresses, in this country, would increase the home consumption of our wool. Independent of this, it would benefit the health of all who would use them, to say nothing of the cleanliness, durability, and economy they would produce, in the end.

CATO.

Pike Co., Mo., Feb., 1848.

TREATMENT OF HORSE MANURE.—Fresh horse dung, when dried, contains about 2½ per cent. of ammonia and other fertilizing salts; but when allowed to ferment, as it usually does in practice, it contains only about 1 per cent. of fertilizing salts, and loses besides, nearly ½ of its weight. This gives some idea of the waste which generally attends the practice of neglecting this kind of manure on the farm. In order to prevent this waste, it is only necessary to throw the dung into a heap, under cover, and sprinkle a few handfuls of charcoal dust or plaster of Paris among it every few days, or if it becomes heated, to mix with it a few quarts of common salt.



MOUNT-AIRY AGRICULTURAL INSTITUTE.—FIG. 57.

THIS Institution is under the superintendence of Mr. John Wilkinson, and is located at Mount Airy, Germantown, Pa., seven miles from the city of Philadelphia. It embraces the farm and buildings favorably known to the public, and recently occupied by James Gowen, Esq. See advertisement on page 231, of the present number.

YANKEE FARMING.—No. 6.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

Raking and Cocking.—As the weather was promising, Uncle Sim preferred to let the hay remain out one night, to sweat in the cock, before being taken into the barn. This he thought made it cure quite as green and fragrant as if it went in the same day, and rendered it much less likely to fire in the mow; nor did it by this process, require half the quantity of salt to preserve it.

To facilitate gathering the hay and to show my neighbors something new, I had brought up with me the horse rake which I had recently purchased, hitched in Mr. Doolittle's old mare to draw it, mounted Peter (his youngest son), on her back to guide her, took hold of the handles myself, and went to work. To their surprise they found it winnowed the hay quite as fast as they could do it with all their hand rakes.

Everything was going on thus cleverly, when, who should appear in the field but Aunt Nabby, at the head of the whole *posse* of our wives, to take a look at my operations; for, misdoubting the working of the rake, our hostess had invited these ladies to come and spend the afternoon with her and take tea, determining in her own mind, in case of the failure of the Sargeant's "new patent gim-crack," as she termed it, to hold them as a *corps de reserve* to help the men do up the raking. But Mrs. Doolittle had not long witnessed the beautiful evolutions of the horse rake, its clean and exact work, before doubt gave way to admiration and delight, and she exclaimed, "Massy on me, how it does roll up the hay! Who'd a guessed, now, with that 'ere old mare to draw, and our Pete to ride, and no livin' parson but the Sargeant a holdin', it would spin so. Wal, if it don't beat all natur a rakin'. I've heern a good deal about its workin', but that is nothin' at all to seein'. How it slips and slides! Why 'tis jest as easy as runnin' on glare ice; and then it turns over and over with a click clack, as reg'lar as the old wooden clock we bought so long ago of that 'ere 'cute pedlin' chap, Mr. Slick. If it was'n't our own hoss now I see there, and our own livin' boy a ridin', I never would a b'lieved my eyes; for the Sargeant a holdin' and guidin' is nothin'. He, and Mr. Jones who stands laughin' there, is ollous cuttin' up some new tantrum, that nobody knows nothin' about 'cept themselves. I ax your pardon, Miss Teltrue," she added, turning round to my wife; "but you know I'm a plain woman and must speak my mind."

Here her curiosity in regard to the operations of the rake was wound up to an irrepressible pitch; and with the view of examining it more particularly, she approached so close, that as it revolved with a heavy load, an outside tooth caught the lower part of her dress, and giving a sudden turn, threw her flat on her face into the winrow, completely enveloping her in the hay. The other ladies and myself instantly sprang to her assistance; but as we removed the hay and lifted her up, we found she was more frightened than hurt, and that a slightly-torn dress, with her cap set a little awry, were the only damages sustained. At this we burst into a

hearty laugh at her expense, in which she joined with great good humor, adding that she "should'nt misdoubt the Sargeant's rake agin as long as she was a livin' body." She then led off with her female train for the house.

Afternoon Lunch.—Past four o'clock soon came, and once more the fair Molly presented herself with her well-stored baskets. Excepting the ham, which had given place to some delicious custard pies, the contents were the same as in the forenoon. Again we adjourned to the old oak, and again the merry joke and laugh went round. Lunch over, Captain Truck was the first to rise and walk off towards his work; but in so doing, we observed, that he lurched a little first to the right and then to the left, and then his legs crossed each other in so peculiar a manner, that Uncle Sim took the liberty of asking him, "Whether his schooner was in a gale o' wind, with more sail on than it was comfortable to carry, or whether she had a little too much of good old 'New England' aboard, that water-logged her so badly?" At this the Captain stopped, turned round, gave a vehement gulp, put his rake-head to his shoulder, pointed the end of the handle towards his interrogator, and squinting steadily along its surface, prepared to pull trigger, as if in the act of firing a musket, and then asked with a comical grin, if Mr. Doolittle wanted any owls shot." This question so tickled Cesar, who was lying flat on the turf, gnawing at the last remnant of a pie crust, that he involuntarily burst into a regular horse laugh, and exclaimed, "Golly, Massa Cap'n, you's got the wind'ard side on him dis tack." He then commenced kicking up his heels, and rolling over and over along the ground, like a well-filled water cask, in order to let off his exuberant feelings, but soon brought up with his protuberant seat hard against a large hassock of grass. Here he rested a moment, when up he bounded with an alertness that no one present thought him before capable of, and giving a loud yell, clapped both hands on his posteriors, and ran for the nearest hay cock as if he were mad. Into this he plunged as much of his long body as it was possible, took off his wide-brimmed straw hat and twirled it round and round his head with the velocity of a top.

"What's the matter, you great lubber," cried the Captain, setting the end of the rake stale on the ground by way of support. "Hornet, Massa Cap'n, hornets 'nough to sting dis nigger to def." "Blow me, if there's a single one within speaking distance," replied the Captain, who by this time was well stirred up and quite himself again—"twas only a waspe' nest you set on, you foolish woolly head, and not one of the yaller bellies as I can see" (still winking a little hard), "has followed you. So take a rake and go to work again, and don't frighten sober folks any more with your yellin'."

At this, we all followed suit, Captain Truck took the lead, and just after sundown we completed raking and cocking the hay. Uncle Sim now took off his hat, thanked us for our assistance, and hoped we would be on the ground with our teams as soon as the dew was off the next morning, to help get in the hay; he then invited us all up to supper.

The meal consisted of tea, an abundance of cold meats and vegetables left from the dinner, new

bread and butter, dough nuts and cheese, dried apple pie, and hasty-pudding and milk. The meats were scarcely touched, but we did ample justice to the rest of the good things on the table. Supper finished, we joined the ladies in the verandah, where, after chatting till about nine o'clock, each took his wife on his arm and returned home.

Gathering the Hay into the Barn.—No sooner was the dew off the cocks the next morning, than we were all on the ground again. With short hay forks in hand, we soon opened the tops of the cocks to the influence of the sun. As soon as this was done, we yoked up our teams, and commenced loading those first stirred. Here we had quite a strife for the leadership; but as usual, Major Goodell's smart, red cattle beat us all hollow, and proved the heroes of the day; Uncle Sim remarking, by way of comfort to myself, "that although it was sartin the Sargeant's big stags was'n't quite so fast as his hoes, yet to make amends, they was *dreadful sure*; and took sich loads to the barn, as not another pair o' cattle on the ground could begin to start. Yes, and he could say on 'em as the man said o' the elephant when he first seed him—'Wal, Old Ivory, with that long limber snout o' yourn, so ye're chained fast to the ground by one o' them 'ere delectate leetle legs as ye? Wal, I spose like that 'ere feller they call Atlas, I used to hear tell on, in my school-boy days, when ye do move, ye'll be sartin to take the airth with ye."

This comparative illustration of the strength of my cattle produced a loud laugh all round, but whether for or against me I did not stop to inquire. I know this, that we kept smartly at work, and by high noon, without any particular adventure, or misadventure, worth recording, we finished storing Mr. Doolittle's hay for him, in the best of order. Hereupon we adjourned to dinner, which, although Aunt Nabby pronounced "amazin' poor, and didn't know as we should find a single dish fit to eat," yet it proved, if anything, superior to that of the preceding day. This finished, we took seats in the verandah, and after indulging in a half hour's chat all round, each man yoked up his team, and wended his way for his own home. Thus pleasantly and profitably ended Mr. Doolittle's "mowing bee."

SERGEANT TELTRUE.

VARIOUS USES TO WHICH GLASS MAY BE APPLIED.

Not only milk pans and cream pots, jars and flower pots, tiles and grape glasses, as well as various other horticultural and floricultural utensils, are already made of glass, but rolling pins and sundry other articles hitherto made of wood, metal, or clay. There are also bee glasses, propagating glasses, and glasses for protecting seeds.

It has been suggested that glass might be usefully substituted for metal to form the roofs of verandahs, thus obviating the darkening of rooms. For coal plates, area gratings, or the covering of cellars, where much light is required, and the top is to be used as a yard or passage, thick, rough, plate glass might advantageously be used; also for the risers, and even in some cases, for the tread of stairs, when light is required below, or to stairs underneath. Glass might also be formed into chairs, meat safes, larder shelves, tables, sideboards, washstands,

sinks, taps, cisterns, the pipes for house drains, watch springs, coffins, and other articles too numerous to be mentioned.

LETTERS FROM ABROAD.—No. 3.

Season of the Vintage—Weather.—The time at which the vintage commences on the Douro, varies from the beginning of September to the middle of October, according to the nature of the season, whether wet or dry, hot or cold. As the rosy skins of the grape swell with luscious juice when approaching ripeness, they are daily watched—every change in the sky is observed—and the anxious vine grower prays that no rain may fall to rot the tender fruit, and fill his tonels with water instead of wine. If threatening clouds appear, the careful and more timid commence gathering their grapes ere they are fully ripe; the wise and bold, with more sagacity, allow theirs to hang, in hopes of the return of sunshine; but when the vintage has once commenced, time is invaluable to all. At this period there are employed in the whole Port-wine district, at least 20,000 Gallegos and half as many Portuguese men, women, and children.

Gallegos.—The Gallegos are hard-working countrymen, generally honest, from Galicia, in Spain, who leave their homes in search of employment in the Portuguese vineyards and larger towns, as porters, water carriers, and other inferior grades of servitude. They are most parsimonious in disposition, often subsisting on a dried herring and a piece of black bread for each meal, and sleeping in some wretched hovel at night, hardly fit for brutes. As soon as the vintage is ended, they return to their mountain homes, with five or ten dollars in pocket, which has been received as wages; or, perhaps, after years of toil, now and then an instance occurs, where one has accumulated \$100 or \$200, and retires to his native land to end his days in ease.

The Wine Press and Tonels.—The place in which the wine is made and pressed, is called in Portuguese, a *lagar*. It consists of a tank from twenty to thirty feet square, and from two to three feet deep, formed of massive stone work, laid in cement, being raised considerably above the ground, and sheltered by a roof, supported on masonry, or posts. At one side of the tank, generally in a lower building, there are large oaken puns (tonels), often holding thirty pipes, so situated that the wine may flow freely from the press into them through a moveable gutter provided for the purpose. About midway above the tank, there is a heavy wooden beam, thirty or forty feet in length, confined at one end by a kind of socket, nearly on a level with the top of the tank, and weighed down at the other end by a large stone attached to a screw. When the men can no longer extract anything from the huaks of the grapes, by treading, planks, or followers, are placed beneath this beam, and by the aid of the large stone and screw, the last remaining juice is pressed out.

Treading Out Wine.—While the men are carrying the grapes from the hill sides, and in emptying their baskets into the tanks, a boy stands, bare-legged, in the centre, levelling the bunches with a rake, as they are thrown in, so as to form an even surface. As soon as the tank is filled with grapes, from twenty to forty men jump in, with their trow-

sers rolled up, and commence treading, or rather dancing, to the sound of fiddles, guitars, fifes, and drums, accompanied by the wild chorus of their own voices, for the space of two days and as many nights, with six hours' rest between each eighteen, till the skins of the grapes are perfectly bruised, so as to extract every particle of their color, and their juice is completely expressed.

Fermentation of the Juice.—After the men retire from the tank, the juice, husks, and stalks are allowed to ferment together from two to six days. In the mean time, the husks and stalks rise to the surface of the liquid and form a compact mass; the color is still further extracted from the skins; and the stalks impart that astringent quality so much admired by all lovers of good Port wine.

Previous to drawing off the wine from the press into the tonels, it is of a dark, muddy color, sweet, nauseous, and sickening. The period at which it is thus drawn off, is the time when the rich and generous qualities of the grapes are liable to be lost or retained. At this critical moment, the future success of the operation almost entirely depends; for, in consequence of the richness of the Douro grape, the fermentation is generally so active, that, if suffered to remain too long in the press, it will be converted into a bitter liquid, unfit to drink, and of little, or no value, except for making into vinegar. Therefore, in order to retain those highly-prized qualities, it is absolutely necessary to add brandy to the juice before that stage which causes bitterness begins. Nothing, however, can enable one to judge of this critical point, except long experience and a perfect knowledge of the business.

The Addition of Brandy Indispensable.—Brandy always has been, and always must be, added to the richer and finer Port wines, which are intended for long keeping; for, from their very nature, they will overwork themselves, and, by exhausting their own strength, will ultimately be destroyed. 'Tis true, the grapes from which the richest of these wines are obtained, when hung up in the sun to dry, become complete masses of saccharine matter, or sugar; but this property is only possessed by those grown in positions most exposed to the sun, and afford that luscious and fruity flavor, of which no other wine can boast. With the poorer and more watery grapes, the fermentation, although less violent, will work out the little saccharine matter they contain, which will entirely disappear, in time; and a light, dry wine will be formed, requiring but little brandy to preserve it, for the very reason, that it possesses fewer good qualities to preserve. Thus, the commonest green wine of Portugal (vinho verde), will keep only a year without brandy, after which, it turns to vinegar.

Brandy Lost by Evaporation.—It must not be supposed, however, that, because brandy is added to wine, it there remains; for, in reality, it is lost by evaporation, in a very short time, particularly in hot weather, and consequently, when the wine is drunk, its strength has in no way increased, but on the contrary, has been diminished by age. On this point I shall speak more fully when further treating on the management of wine. F. R. S.

Upper Douro, Sept. 27th, 1847.

WEEDS should be destroyed when young.

VALUE OF GUANO.

As a Top-Dressing for Grass.—We have never yet found anything superior to guano, especially directly after mowing or close pasturing. Spread, broadcast, from 250 to 500 lbs. per acre, according to the fertility of the soil; if rain, or heavy dew, soon follow, the effect will be surprising. If the grass be cut, or depastured, early in the season, say by the last of June or fore part of July, we have repeatedly noticed, that the guanoed patches produced as great a second growth as that of the first. This is a matter of no small consideration to those who have only a small quantity of land, and are desirous that it should yield the greatest possible product. Another consideration is, guano gives the turf a greener and richer appearance than most kinds of manure; and will frequently bring in other highly nutritious grasses, which may not have made their appearance in the field for years before.

For Turnips, guano is a very valuable manure; and has the merit also of being extremely disagreeable to the fly. After the ground is prepared, spread the same quantity, broadcast, as upon grass, either before or after the turnip seed is sown, and then smooth over with a fine harrow, bush, or roller, or with all three, as may be most convenient. Some prefer to apply only half the quantity of guano at the time of sowing the seed, and add the other half when the turnip plant is in its first leaf. They think this method a better guard against the fly, and that the guano proves equally beneficial.

For Corn.—At the last hoeing, apply a heaping table-spoonful of guano around each hill, about six inches from the stalks, and with the hoe, mix it with the soil. It is very effectual in assisting the ears of corn to fill out with grain; and it adds also somewhat to the growth and nutriment of the stalk.

For Buckwheat, Wheat, and Rye.—As a top-dressing for these crops, at the time of, or after, sowing, guano has proved itself equal to the best of manures.

Strawberries and Other Fruits delight in guano. It increases the size of fruit of all kinds, and adds much to its delicacy and flavor.

For Various Other Crops, guano is highly recommended, by the most experienced farmers and gardeners, in cases where a large, quick growth is desired.

It is upwards of twenty years since guano was first introduced into the United States, and for the past five years it has been very extensively used, and highly approved of, by the farmers and gardeners in the neighborhood of Boston, New York, Philadelphia, Baltimore, Norfolk, Charleston, and New Orleans. For price, which is quite low, see advertisement.

A POSER FOR LIEBIG.—It is well known by all who are familiar with the writings of Liebig, that he has stated as his opinion, that plants derive all their azote (nitrogen); from the air. Against this opinion may be placed the conclusion at which Professor Kuhlmann, of Germany, has arrived, from careful and laborious experiment, namely:—*That if the air can supply sufficient azote for vegetation in its unaided, or natural condition, we can double that vegetation by the addition of azote to the soil!*

AMOUNT OF AGRICULTURAL PRODUCTS
GROWN IN THE UNITED STATES,
IN 1847.

THE following table exhibits the amount and value of the agricultural products grown in the United States, in the year 1847, as given in the Annual Report of the Commissioner of Patents, for that year:—

Articles.	Bushels.	Value.
Wheat, . . .	114,245,500 .	\$137,094,600
Indian Corn, . . .	539,350,000 .	215,740,000
Barley, . . .	5,649,950 .	4,519,960
Rye, . . .	29,222,500 .	18,994,625
Oats, . . .	167,867,000 .	41,966,750
Buckwheat, . . .	11,673,000 .	5,836,500
Potatoes, . . .	100,950,000 .	20,190,000
Beans, . . .	25,000,000 .	25,000,000
Peas, . . .	25,000,000 .	30,000,000
Tons.		
Hay, . . .	13,319,900 .	106,559,200
Hemp and Flax, . . .	116,207 .	17,431,050
Pounds.		
Tobacco, . . .	220,164,000 .	11,008,200
Cotton, . . .	1,041,500,000 .	72,905,000
Rice, . . .	103,040,500 .	3,091,215
Sugar, . . .	324,940,500 .	19,496,430
Silk Cocoons, . . .	404,000 .	808,000
Hops, . . .	1,510,972 .	151,097
Beeswax, . . .	766,530 .	168,636
Honey, . . .	22,995,900 .	2,299,590
Gallons.		
Molasses, . . .	13,000,000 .	3,250,000
Wine, . . .	152,175 .	152,175

SUPERIOR SADDLERY AND HARNESSES.—If any of our friends are in want of these articles, we can confidently recommend them to the establishment of Mr. Thomas Walke, at 64 Broadway, where they will find a good assortment of superior manufacture, and at reasonable prices. We have never been so well fitted as here; and should be glad to show any one desirous of seeing it, a recently improved saddle of Mr. W.'s manufacture, that we daily have the gratification of bestriding over a high-spirited horse, which, for comfort and safety, is equal to the best Spanish or Mexican; and for lightness, ease, and thorough workmanship, is no way inferior to the highest-priced English.

MR. WILKINSON'S SALE.—We trust that all those interested in fine stock, will not fail to attend Mr. John Wilkinson's sale of choice Short-Horn stock, which is to take place at Germantown, Pennsylvania, on the 12th of this month. It is the herd that was bred by Mr. James Gowen, of Philadelphia, who transferred it to Mr. Wilkinson. Several of these cows are celebrated milkers, and the whole stock is highly deserving the attention of breeders.

COMPARATIVE VALUE OF INDIAN CORN AND BUCKWHEAT AS FOOD FOR HENS.—It is believed that a bushel of corn will last twice as long in feeding hens as a bushel of buckwheat, but the latter will make them lay eggs more than other grain, the profit thus overbalancing the cost.

MEETING OF THE ROYAL AGRICULTURAL
SOCIETY OF ENGLAND.

A WEEKLY council of this association was held at London, on the 17th of May, from the proceedings of which we extract the following:—

Period of Suckling Young Animals.—Mr. Wyatt Edgell, of Surrey, addressed to the council, through the president, a communication on the probable injurious effects arising from the circumstance of allowing young animals to take the milk for too long a period from their dams, especially in the cases of mares and ewes, which he conceived were impoverished by such a lengthened drain upon their constitutions, while their offspring were, at the same time, retarded in their growth and development, from the insufficient supply and inferior quality of milk they obtained under such circumstances. Mr. Edgell was led to the consideration of this subject from a perusal of the statement, made by the Rev. G. R. Glegg, in his travels in Hungary, that the high-bred foals, at the great stud, at Babohna, usually dying at four months old, from some vicious quality, as it was supposed, in the milk, they were removed from the mares at the end of the first month, and fed on boiled carrots, when it was found that not one fiftieth of the number of foals, that died under the old system, were lost under the new one. Without endeavoring to ascertain from what cause the milk in the case of the Hungarian mares had, probably, become vitiated, if a change in the quality of the milk had been the cause of the evil, Mr. Edgell thought the period of suckling the young of cattle a subject worthy of consideration.

This communication gave rise to an interesting discussion among the members present. Mr. Milward thought it might be assumed, as a general rule, that, under favorable conditions arising from the constitution of the mother, a requisite supply of proper food, and consequently an abundant secretion of healthy milk, the longer young animals sucked the better; and he could state, from his own experience in the case of Short-Horned cattle, that the calves could not acquire the full development in size or symmetry, unless reared on new milk for at least the first six months after their birth.

Sir Matthew Ridley did not think it advisable to leave calves with mothers which had become again in calf; in that case, as in the case of all choice stock, nurse cows would of course be provided.

Mr. Fuller had found that those calves were always the best which had been allowed to suck the longest.

Mr. Tweed considered that foals would be injured by sucking such mares too long as were actively kept at work.

Mr. Dyer was acquainted with a large flock master who constantly lost one tenth of his 500 ewes by allowing the lambs to remain with them till July; but who, from having last year weaned the lambs considerably earlier in the season, had lost a much smaller proportion of his ewes. Mr. Dyer conceived that by the middle of May, or as soon as lambs were four months old, and enabled to get their own food, when there was grass enough for them in the pastures, they might safely be weaned from the ewes; and that on the other hand, when the ewes were low in condition, disease must ne-

cessarily be occasioned by allowing the lambs to remain too long with them.

Mr. Milward thought that the loss sustained by Mr. Dyer's friend arose from the ewes being kept in too poor a condition, and not from the circumstance of the lambs being allowed to suck them for too long a period; it all depended upon the food a flock master had to give them.

Sir Matthew Ridley remarked, that there might be an evil in the too early weaning of lambs, as in that case the udders, from distention, unless milked by hand, would become sore and diseased. He thought that no general rule could be laid down on the subject, but that the weaning might advantageously take place when good grass was to be had by them, and in sufficient abundance, as both ewes and lambs at first destroyed the herbage to which they were put after weaning.

Mr. Glegg observed, that in Scotland the Cheviot ewes had their lambs removed from them about the 20th of August.

Prof. Sewell regarded the subject as one of great importance; and thought that if inquiry was instituted amongst practical farmers and breeders of sheep, much light might be thrown upon the origin of diseases still involved in obscurity, particularly in the case of young stock, which he considered to become victims to diseases too often attributed to food, soil, situation, or peculiarity of management. He had no doubt that a statistical account of the time of lambing and of weaning, and a statement of the dates at which, in different localities throughout the kingdom, grass or green crops are usually ready for ewes and lambs, would be attended with much practical benefit, as it was very likely that circumstances of situation and climate would be found to occasion much difference in the occurrence of those events; statements connected with lambing, weaning, and appearance of green food south of the Humber, not applying to districts north of that division of the country.

Sawdust Charcoal.—Mr. Woolrych Whitmore was led to make a few observations on the success with which he had employed charcoal obtained from sawdust, and the various refuse vegetable matter collected on his property, as a general manure for garden and field use, especially when mixed with bone, prepared according to the plan recommended by Mr. Pusey, in the proportion of one third bone with two thirds charcoal, employing water only as the liquid for moistening the heap, and of promoting the fermentation, and the result that was obtained in the course of a month or five weeks; and he had found no artificial manure at all equal to this fermented mixture. He found that raw sawdust did not succeed, but that charred sawdust, or sawdust charcoal, did admirably. He also ascertained that there was a mechanical advantage in sawdust, or wood charcoal, in producing this effect, not to be met with in charcoal obtained from couch grass, and other charcoal from plants, the latter appearing to be more compact, heavy, and impervious in its mechanical condition, which impeded its action in promoting fermentation. This charcoal was, therefore, employed alone as a top-dressing. Mr. Whitmore had not, at present, devised a convenient mode of reducing his sawdust to the

state of charcoal; but he had no difficulty with other substances, such as couch grass and other weeds, the clippings of trees, cabbage stalks, &c.; these he piled round an upright pole into conical heaps, and covered them up with earth; the pole was then gently withdrawn, and a vacancy being thus left in the heap, from the bottom to the top, where the pole had occupied a space, a flue was formed which, after ignition, greatly facilitated the charring, or slow combustion of the surrounding vegetable matter.

Professor Way remarked that the use of charcoal in agriculture was by no means carried to the extent to which, in his opinion, it ought to be. It was a substance that stood midway between a chemical and a mechanical agent; absorbing to a great amount various gases and vapors, and especially the volatile ammonia so often produced during decomposition, and allowed to escape into the atmosphere. Had he not just heard from Mr. Whitmore that charcoal and bones mixed together underwent fermentation, he should have thought that charcoal would have had the effect of retarding or even of preventing that process. As ammonia was disengaged in the decomposition of bones, the presence of a porous substance with the imbibing properties of charcoal would at once secure that volatile element and prevent its escape, rendering the artificial manure produced so much the more valuable. He had understood from Mr. Parkes that Mr. Outhwaite, a friend of his in Yorkshire, who was an excellent practical farmer, converted not only the clippings of hedges and weeds, but also all his refuse straw into charcoal, which he employed largely on his land. Charcoal had long been employed as an antiseptic, removing from decaying bodies their ill odor, as well as their tendency to putrescence; and he believed that charcoal would be found one of the best preservatives from mildew in the turnip crop, that injury being understood to arise generally from a peculiar condition of the soil.

GREAT SALE OF THOROUGH-BRED STOCK.

We commend to the notice of our readers, the advertisements of Col J. M. Sherwood, of Auburn, and Mr. L. F. Allen, of Black Rock. Their stock consists of very fine and highly-bred Short-Horn and Devon cattle; Cotswold, South-down, and Merino sheep, which will be offered for sale, without reserve, at the Show of the New York State Agricultural Society, to be held at Buffalo, on the 5th, 6th, and 7th of September next.

We have been long conversant with the choice animals bred by each of these gentlemen, and can confidently recommend them to all such stock breeders as wish to improve their flocks and herds, or breed cattle and sheep of the best quality.

The offering of stock for sale in such large numbers at our cattle shows, is a new and valuable feature in the progress of the State Agricultural Society; and cannot but have a beneficial effect in inducing the visits of such as wish to make purchases. We trust that the efforts of Messrs. Sherwood and Allen may be crowned with success, and prove such as to induce other stock breeders annually to follow their laudable example.

DORKING FOWLS.

For those who wish to stock their poultry yards with fowls of the most desirable shape and size, clothed in rich and variegated plumage, and, not expecting perfection, are willing to overlook one or two other points, the speckled Dorkings, are the breed to be at once selected. [So called from a town in Surrey, which brought them into modern repute.] The hens, in addition to their gay colors, have a large flat comb, which, when they are in high health, adds very much to their brilliant appearance, particularly if seen in bright sunshine. The cocks are magnificent. The most gorgeous hues are frequently lavished upon them, which their great size, and peculiarly square-built form, display to the greatest advantage. The breeder and the farmer's wife behold with delight their short legs, their broad breasts, the small proportion of oval, and the large quantity of good profitable flesh. When fatted and served at table, the master and mistress of the feast are satisfied. The cockerels may be brought to considerable weights, and the flavor and appearance of their meat are inferior to none. Those epicures who now and then like a fowl killed by dislocation of the neck without bleeding (the more humane way), will find that this variety affords a tender and high-flavored dish. The eggs are produced in reasonable abundance, and though not equal in size to those of Spanish hens, may fairly be called large. They are not everlasting layers, but at due, or convenient intervals, manifest the desire of sitting. In this respect, they are steady, and good mothers when the little ones appear. They are better adapted than any other fowl, except the Malay, to hatch superabundant turkey's eggs. Their size and bulk enable them to afford warmth and shelter to the turkey poults for a long period. For the same reason, spare goose eggs may be intrusted to them; though, in this respect, I have known the pheasant breed to be equally successful.

With all these merits they are not found to be a profitable stock if kept thorough bred and unmixed. Their powers seem to fail at an early age. They are also apt to pine away and die, just at the point of reaching maturity. When the pullet ought to begin to lay, and the cockerel to crow and start his tail feathers, the comb, instead of enlarging and becoming coral red, shrinks and turns to a sickly pink, or even to a leaden hue; and the bird, however well fed and warmly housed, dies a wasted mass of mere feathers, skin, and bone. It is vexing, after having reared a creature just to the point when it would be most valuable for the table, or as stock, to find it "going light"; particularly as it is generally the finest specimens, that is the most thorough bred, that are destroyed by this malady. I do not believe that the most favorable circumstances would prevent the complaint, though unfavorable ones would aggravate it, but that it is inherent in the race and constitution of the birds. They appear at a certain epoch to be seized with consumption; exactly as in some unhappy families, the sons and daughters are taken off all much at the same age. In the speckled Dorkings the lungs seem to be the seat of disease, and it is to be regretted that no dissection was made in cases where I had the opportunity. But the serious and fatal

maladies of fowls are difficult to trace to their cause, and still more difficult to cure by the application of any remedy.

Pure Dorking hens are sometimes barren. I had one a perfect model to the eye, short, square, compact, large, with plumage, comb, and weight all that could be wished—the very pullet that a fancier would have chosen to perpetuate the breed. But she never laid, nor ever showed any disposition to sit, and in consequence of her uselessness, at about two years old, was brought to table. The carving knife soon demonstrated a malformation of the back and side bones, and showed that the models of the breeder may sometimes be too highly finished. The cocks, too, with all their outward trappings and sturdy build, I must suspect to be deficient in vigor. If many hens are allowed to run with them, clear eggs will disappoint those who want large broods of chickens. Three, or at most four, hens to a cock will give the most successful results. These and a few other apparently trifling facts seem to show that, with the speckled Dorkings (a variety of great antiquity), the art of breeding has arrived at its limits.

As mothers, an objection to the Dorkings, is, that they are too heavy and clumsy to rear the chicks of any smaller and more delicate bird than themselves. Pheasants, partridges, Bantams, and Guinea fowls, are trampled underfoot and crushed, if in the least weakly. The hen, in her affectionate industry in scratching for grubs, kicks her lesser nurslings right and left, and leaves them sprawling on their backs. Before they are a month old, half of them will be muddled to death by this rough kindness. In spite of these drawbacks, the Dorkings are still in high favor; but a cross is found to be more profitable than the true breed. A showy, energetic game cock, with Dorking hens, produces chickens in size, and beauty, little inferior to their maternal parentage, and much more robust. Everybody knows their peculiarity in having a supernumerary toe on each foot. This characteristic almost always disappears with the first cross, but it is a point which can very well be spared without much disadvantage. In other respects, the appearance of the newly-hatched chicks is scarcely altered. The eggs of Dorking hens are large, very much rounded, and nearly equal in size at each end. The chicks are brownish-yellow, with a broad, brown stripe down the middle of the back, and a narrower one on each side; feet and legs yellow.

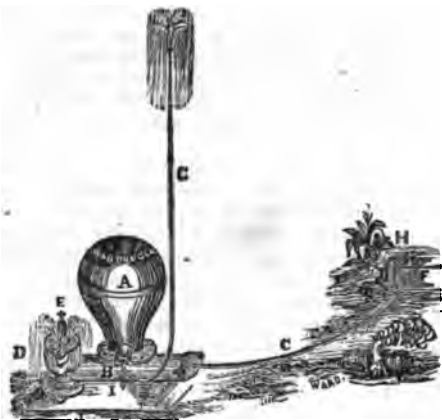
On this breed, Mr. Alfred Whitaker thus expresses his opinion:—"I agree with you fully as to the usefulness of this description of poultry, but I do not view them exactly through the same medium as to their beauty. Compared with the pheasant Malays, they are short-necked, and there is no arch nor crest to the neck. Their colors vary from a streaked grey to a mottled or spotted brown and white. A neighbor, here, has some of the finest I ever saw; the cocks with very full, double combs, and the hens generally with reddish-brown spots on a white ground. To my eye, the cocks look heavy and stupid, neither the head nor the tail being usually carried in an erect position, or with any semblance of spirit. As regards size, they are magnificent. I saw one on my friend's dinner table,

three days since, quite as large as an ordinary hen turkey; it was a cockerel about seven months old. My experience of their laying and breeding qualities agrees mainly with your statement, except that I should lay still stronger emphasis on their fatal clumsiness as mothers, which, I am inclined to think, is aggravated by their extra toe behind, and the great length of their back toes. They frequently trample to death their chickens during the process of hatching, and, in a small coop, they demolish them at a fearful rate. I think they never should be cooped with their chickens; but a still safer course would be to hatch the eggs under a mother of a less rough physique, or perhaps by Cantelo's hydro-incubator." The only question is, how the hen is to be employed when the sitting fit comes on, for they are most persevering sitters. I have successfully hatched both turkeys and geese under Dorking hens. The latter will stand a great deal of trampling and kicking about without taking much harm from it. Mr. Whitaker, continues, "I have crossed the Dorkings with pheasant Malays. The first cross produces a fine bird, which is large, though not prolific; but if you allow the cross to breed with each other, they dwindle to nothing. The doctrine of breeding is yet ill understood. I am disposed to think that, where you have a real variety, breeding in is the natural and best mode of procedure; but that when you cross two thoroughbreds, you have no guarantee that the cross breed will be good further than the first result."

The above remarks are condensed from a highly-interesting communication, lately published on "Ornamental Poultry," other portions of which we propose to insert in a future number.

DOUGLAS' IMPROVED HYDRAULIC RAM.

This perfectly simple and effective machine may be employed for forcing a portion of a brook, or other stream of water, to any elevation or distance where a proportionate fall can be applied, for the purposes of irrigating lands, and supplying dwellings, gardens, factories, villages, engines, railroad stations, &c., with running water.



DOUGLAS' WATER RAM.—FIG. 58.

Explanation.—H, denotes the brook or stream; C, the drive or supply pipe for conveying the wa-

ter from the stream to the ram; G, the pipe which conveys the water from the ram to the house or other point required for use; A, B, D, E, I, the ram.

The simplicity of the operation of this machine, together with its effectiveness, and very apparent durability, renders it decidedly the most important and valuable apparatus yet developed in hydraulics, for forcing a portion of a running stream of water to any elevation, proportioned to the fall obtained. It is perfectly applicable where no more than 18 inches fall can be obtained; yet the greater the fall applied, the higher the water may be conveyed, the quantity raised varying in proportion to the height, with a given fall. It will raise, say, one twelfth of the water ten times the height of the fall to which it is applied. Thus, if applied under a fall of five feet, with a supply of twelve gallons per minute, it will force up and discharge, at an elevation of fifty feet from the machine, one gallon per minute; and under the same head, or fall, it will, of course, raise and discharge a larger quantity of water in proportion as the height to which it is conveyed is diminished, and so a less quantity a greater height.

This ram is constructed with an *adjuster*, which renders it decidedly superior to anything of the kind yet invented, as by this improvement the same machine may be conveniently varied in capacity, and at once adapted to various-sized streams.

These machines are composed of metal, and are a very neat, compact, and portable article. No. 4, the ordinary size, weighs but 35 lbs., and occupies only about a cubic foot of space.

The different sizes are applicable to springs, or brooks, which furnish, say, from one quart to twenty gallons per minute. If the stream is a large one, and a greater supply of water be required, then the number of machines may be increased in preference to having one machine of a larger capacity than above named.

In all cases the article is warranted complete and perfect, so as to give the best satisfaction, or it may be returned. Prices, from \$12 to \$18, exclusive of pipe.

SALE OF MR. PRENTICE'S HERD.—Mr. E. P. Prentice, of Mount Hope, near Albany, has recently sold his entire herd of Short-Horn cattle, to Mr. George Vail, of Troy. We understand that this stock is principally derived from four of the cows of Mr. Prentice's importations from England, which he reserved to himself in his great sale three years ago. These cows, if we recollect rightly, were all very fine in their points, and good milkers. Mr. Vail contemplates breeding them to his celebrated Bates bulls, and we can but think that the produce will be such as to find favor among the stock growers of the country.

WHAT IS A MODEL FARM?—A model farm, if true to its name, is one upon which only the best practices are pursued; in other words, the *beau ideal* of a farm; and in order to become a model, it must necessarily show a greater annual return, in proportion to the outlay, than most of the neighboring farms.

DEATH OF TURPENTINE TREES.

WE learn that some doubts exist at the north, relative to the death of turpentine trees, an account of which appeared in the *Chronicle* of the 3d inst. There is, unfortunately, no mistake in this statement, unless falling short of a full detail of the calamity may be considered such. We have personal acquaintances who have lost trees in this way, and have undoubted statements of their dying in lots of five, ten, and as high as one hundred thousand. One gentleman had his trees boxed, which run very well, but after the first dipping they all died. This fatality among the trees has been thus far felt more in Brunswick county than in any other quarter here, in which county alone the damage is estimated at \$100,000. They still continue to die, and no one can calculate the extent to which the destruction may arrive. No satisfactory knowledge of the cause has been obtained, nor any remedy found.—*Wilmington Commercial*.

The cause of the dying of the trees above referred to, is doubtless owing to the ravages of the larvæ of the Pales weevil (*Hyllobius pales*), and the pitch-eating weevil (*Hyllobius picivorus*, of Harris). Wilson, the ornithologist, describes the depredations of these insects, in his account of the ivory-billed woodpecker, in the following words:—Would it be believed that the larvæ of an insect, or fly, not larger than a grain of rice, should silently, and in one season, destroy some thousand acres of pine trees, many of them from two to three feet in diameter, and a hundred and fifty feet high? Yet whoever passes along the high road from Georgetown to Charleston, in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of the fact. In some places the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling to ruins before every blast, presenting a frightful picture of desolation. Until some effectual preventive or more complete remedy can be devised against these insects and their larvæ, I would humbly suggest the propriety of protecting and receiving with proper feelings of gratitude the services of this and the whole tribe of woodpeckers, letting the odium of guilt fall to its proper owners.

The larvæ live under the bark, devouring its soft inner surface, and the tender, newly-formed wood. When they abound, as they do in some of our pine forests, they separate large pieces of bark from the wood beneath, in consequence of which the part perishes, and the tree itself soon languishes and dies.

EFFECT OF TEMPERANCE SOCIETIES ON DISTILLERIES.

IN a very elaborate paper lately published in the Report of the Commissioner of Patents, by Charles L. Fleischmann, Esq., it is stated that the president, Count Burghaus, opened a meeting of German agriculturists, at Breslau, some time since, with an appropriate address, giving a sketch of Silesian agriculture; and mentioned in it a fact which could not but please those interested in the noble cause of temperance. Prussian Silesia, he said, has

heretofore had, to its population of 3,000,000, no less than the enormous number of 2,384 distilleries; and they have usually yielded to the government a yearly revenue of 998,000 thalers; but since the rise of temperance societies, during the first four months of the year, 1846, the product of this tax had fallen off to 150,582 thalers; a diminution, as compared with the same period, in 1844, of no less than one sixth. From this decrease of tax and drink, he, of course, argued a proportionate decrease of drunkards; of the grain consumed by distilleries, and of the total grain for which a market can be found; and hence he inferred that some agricultural labor must be diverted to other pursuits.

A CHEAP PAINT.

As this is the season of the year when the good housewife delights in furnishing up the homestead, and in making it and all its appendages look almost as good as new, we re-publish the following receipt for making a cheap paint. It is by Colonel Boyle, of Annapolis, a gentleman, who, notwithstanding the incessant claims upon his time in profession, still devotes a portion of it to rural occupations, and has, in times past, very acceptably occupied our pages, much to the edification and delight of our readers.—*American Farmer*.

To Make Paint.—Having been so frequently applied to for the following receipt, until it has become troublesome to give copies of it, I request you to publish it.

JAMES BOYLE.

To make paint without white lead and oil. Take 2 quarts skimmed milk, 2 ounces fresh-slacked lime, 5 pounds whiting; put the lime into a stoneware vessel, pour upon it a sufficient quantity of milk to make a mixture resembling cream; the remainder of the milk is then to be added; and lastly the whiting is then to be crumbled and spread on the surface of the fluid, in which it gradually sinks. At this period, it must be well stirred in, or ground as you would other paint, and it is fit for use. There may be added any coloring matter that suits the fancy.

It is to be applied in the same manner as other paint, and in a few hours it will become perfectly dry. Another coat may then be added, and so on until the work is completed.

This paint is of great tenacity, and possesses a slight elasticity, which enables it to bear rubbing, even with a coarse woollen cloth, without being in the least degree injured. It has little or no smell, even when wet, and when dry is perfectly inodorous. It is not subject to be blackened by sulphurous or animal vapors, and it is not injurious to health. All which qualities give it a decided advantage over white lead.

The quantity above mentioned is sufficient for covering 27 square yards with one coat.—*Annapolis Republican*.

COLOR OF EGGS.—Fowls, to which a portion of chalk is given with their food, lay eggs having shells remarkable for their whiteness. By substituting for chalk, a calcareous earth, rich in oxide of iron, the color of the egg shells will be of an orange-red.

Ladies' Department.

CAUTION- IN THE CHOICE OF CULINARY UTENSILS.—No. 1.

IN the choice of vessels for ordinary cooking, those made of copper or brass are to be preferred for several reasons. In the first place, they are better conductors of heat than those formed of cast iron, tin, or clay. Hence, less fuel is necessary to heat a certain quantity of water to the boiling point; secondly, they are less subject to oxidate, or rust, and consequently do not throw off scales, become thin, and finally leak, as some other metallic vessels do; and thirdly, from the saving of fuel they effect, and their durability, they are far superior to other metallic vessels generally in use. But let it be borne in mind, that all cooking vessels made of copper, or brass, such as stew pans, kettles, coffee urns, &c., should be well covered with a perfect coating of tin, not only on the inside, but about two inches below the top on the outside, and every time they are used, they should be cleaned and examined, in order to see whether the coating is perfect; for much mischief arises from their getting out of repair, and if not kept perfectly tinned, the food cooked in them is liable to look dirty and green, taste bitter, and become highly poisonous when introduced into the system.

Pure tin, in its metallic state, seems to have no injurious effect on the animal system, and hence, all vessels perfectly lined or covered with it, which are used for general cookery, such as cast-iron pots, kettles, and pans, or the articles of common tin-plate ware (sheet iron covered with tin), may be employed with safety. The tin of commerce, however, used for general tinning, is not pure, but contains traces of arsenic, copper, and lead, all three of which are highly poisonous. Yet the ordinary class of food, as meat, potatoes, &c., have no bad influence on these metals, when thus alloyed with tin; but much is to be feared from the action of acids, and vegetables containing sulphur, as vinegar, onions, greens, &c., because nearly all metals are more or less attacked by such substances.

C.

HOW TO MAKE GINGER SYRUP.

SOAK, for twenty four hours, in warm water, one pound of West-India ginger root; rub it well, and boil it in one gallon of water till reduced to three quarts; strain it through a cloth, and to every pint of water put one pound of loaf sugar, and boil it to a good syrup, skimming it well. When cold, bottle it for use, and it will keep in a cool place, for any reasonable length of time; and a small quantity, mixed in a tumbler of fresh water, makes one of the most refreshing and healthful beverages that can be drunk during hot weather. It also has the double advantage of being easily made, and fit for immediate use. Another method, even less troublesome, is, to make a rich syrup of water and loaf sugar, and when cold enough to bottle, add to every pint of the syrup, two tea-spoonfuls of the best tincture of ginger, which can be purchased at an apothecary's.

E. S.

BUTTER MAKING.

AFTER reading the interesting article on "Butter Making" in your last number, I took up my pen to remark upon, and perhaps criticise it just a very little; but it is a subject of such never-ending dispute, that I concluded I had best let it alone. I will only say that I *never wash my butter*, as I think it deprives it of its fine flavor. If it is too soft to work, when taken out of the churn, it may *possibly* be necessary to plunge the lump into cold water in order to harden it, but I should prefer almost any other expedient. I would sink the butter tubs, or buckets (I use tin altogether), in the spring; or hang them, by ropes, down the well, to the surface of the water. But, instead of my wise remarks, I will give you an amusing occurrence, quite too good to be lost, that happened some summers ago, in Philadelphia, where they pride themselves, not without good reason, on their delicious butter.

A lady from New Orleans was on a visit to a friend whose husband loved the good things of this life so well, that he never trusted any one to market for him, and prided himself particularly on his choice of butter. He had frequently told her as an inducement to make this northern visit, that he would regale her with what she had never tasted—*fresh* butter. For several days, while at breakfast, he asked her if she had ever, even in her dreams, eaten such butter, so firm, so *fresh*, so delicious; and always received the same answer, that it was very good, but certainly not what she could call *fresh* butter. At last his good humor gave way, and fairly out of patience, he said one day, "I lived for twelve years in New Orleans, and never tasted an ounce of palatable butter—it was fit only to grease cart wheels with; and for you, accustomed to nothing better than such vile stuff, to pretend not to like this is perfectly absurd." "I did not say I did not like it, Cousin William," said the lady very pleasantly, "but it does seem very odd to hear you call it *fresh* butter, when the only fault I can point out is, that it has too much *salt* for my taste!"

E. S.

Eutawah, June, 1848.

HOUSEHOLD DRUDGES.

If the paper wasted in vain attempts to *soft soap* the ladies into washerwomen, could be restored to the pristine form, what a fine washing of clothes would there be, my countrywomen!

What could be a more beautiful illustration of womanly dependence and manly courage, than a lady gracefully cleaning handkerchiefs and laces, while her loving lord boldly wrestles with the counterpane and table cloths!

We will darn your stockings for you, gentlemen; we'll hem your handkerchiefs; we'll make your puddings; but while you continue to prefer smoking segars to smoking bacon; mauling each other with hard words in political debates, to the equally gentlemanly, and more useful employment of mauling rails, graciously condescending to pity our weakness—let us dance a little, let us make a little music, and Oh! leave us time to read and dress a little. Have compassion, kind sirs. Turn us not into water nymphs and salamanders!—*Grace Greenwood.*

Boys' Department.

AGRICULTURAL CHEMISTRY—No. 4.

Boys, as the elements of the air, including those of water, have now been described, our next business will be to consider the manner in which their influence is exerted in promoting vegetable growth. But first permit me to refresh your memories on some of the leading points of my previous letters. It is important that you should remember, 1st, that plants cannot contain a particle of matter which has not previously existed either in the atmosphere or the soil; 2d, that the essential constituents of the air are oxygen, nitrogen, carbonic acid, ammonia, and watery vapor; 3d, that carbonic acid and ammonia are compound gases, the former being composed of carbon and oxygen, the latter of hydrogen and nitrogen; 4th, that water is a compound of oxygen and hydrogen, and that it dissolves and holds in solution carbonic acid, ammonia, and many substances in the soil, which are essential to the growth of vegetables. I trust that you are now able to understand (as far as science can explain), the mode by which the elements I have described are absorbed by plants and made to enter into new combinations, such as contribute to the formation of woody fibre, leaves, fruit, seeds, &c.

I would next direct your attention to carbonic acid, and in order to show in what manner this gas can be of service to vegetation. All plants contain carbon, which, in their dried state, constitutes about one half of their weight—vegetable fibre being composed of 53 parts in 100 of carbon, 42 of oxygen, and 5 of hydrogen. The reason why charcoal is not always found on our hearths, after the wood is consumed, is, because it has nearly all united with the oxygen contained in the wood and air around it, and passed off in the form of carbonic acid. It is, in fact, this union of carbon and oxygen that produces combustion; for, when these two gases unite with rapidity, light and heat are always emitted; but when wood, or any species of vegetable fibre, is exposed to a high temperature *without* the presence of air or oxygen, the charcoal (carbon), which it contains remains, while the other elements are separated.

What has now been said is sufficient to convince you of the vast importance of carbon to vegetable existence, and it only remains to be shown how, and from whence it is obtained by plants. You may already have been informed that it is derived mainly from the atmosphere, and that the large amount of carbon, which plants require, could not be furnished entirely by the soil. Leaves of trees and plants continually absorb carbonic acid from the atmosphere, and transmit it to their branches, stems, and roots, where it is decomposed as it is needed, its carbon forming new connexions with certain other elements belonging to vegetables, and its oxygen mostly returned to the leaves and is restored again to the air. But plants do not appropriate *all* the carbon which is thus absorbed; for, the absorption of carbonic acid is going on both night and day, yet it is only during the day, or under the influence of light, that it is decomposed and its carbon appropriated—that which is absorbed

during the night passing off with the water that is constantly evaporating from the leaves.

The atmosphere, then, may be regarded as the principal source for the supply of carbon, and the leaves of vegetables as the principal agents for obtaining it; yet a considerable portion of this important ingredient is undoubtedly derived from the soil, being absorbed and transmitted by the roots. As rain water always contains carbonic acid, and as the roots of plants are always imbibing moisture from the soil, they must necessarily supply more or less carbon. Other sources from which it may be obtained are vegetable and animal manures; still there are many reasons for believing that the whole amount of carbon derived from the soil is comparatively small. This subject will be resumed when treating of *humus*, or vegetable mould.

Your curiosity may be excited to know from what source the atmosphere receives sufficient carbonic acid to supply this immense demand. Unless there were a provision in nature for returning to the air an equivalent for the large quantity of this gas, which is thus drawn from it, there would indeed be a constant decrease, and finally a total exhaustion of carbonic acid. But Supreme Wisdom never committed such an error in designing and arranging the economy of nature. A wise provision is found for supplying, by animal respiration, as well as by the combustion and decay of animal and vegetable matter, the whole amount of carbonic acid consumed by plants, and thus a proper equilibrium is always maintained. Every breathing creature assists in this operation. The oxygen contained in the air we inhale unites with a portion of the carbon contained in the blood that passes through the lungs, thus forming carbonic acid, which is expired and given to the air. The amount of this gas, thus formed by an average-sized person, in twenty-four hours, is about five pounds, and the whole quantity given to the atmosphere by combustion and respiration, in the city of London and its vicinity, has been estimated at 10,000,000 tons annually. When life is destroyed by confinement in a close apartment, it is on account of the production of carbonic acid and consequent loss of oxygen by respiration.

From the facts above stated, we learn, that, if animals did not assist to supply the atmosphere with carbonic acid, trees and plants would at length become extinct, and if vegetables did not extract it from the air, it would, in time, accumulate to such an extent as to destroy animal existence. What an admirable illustration of the power and wisdom of the Deity! Even if no practical advantage were to be derived from scientific investigations, there would be the satisfaction of understanding the glorious operations of nature, and the elevation of mind and refinement of thought, which this department of knowledge can afford, yields an ample return for all the time and labor thus expended.

J. MCKINSTRY.

Greenport, Columbia County, N. Y.
June 1st, 1848.

EXPERIMENT FOR THE BOYS.—How much water will a common dry brick absorb, if applied gradually, drop by drop, or by a very small stream?

FOREIGN AGRICULTURAL NEWS.

By the Steamer America, which arrived at Boston, in the unprecedented passage of ten days from Liverpool, we are in receipt of our foreign journals to the 31 of June.

Markets.—Ashes dull. Cotton was $\frac{1}{4}$ d. per lb. lower. Flour, Wheat, and Provisions, in limited request, at a slight reduction of price. Indian Corn and Meal, quite brisk, at a slight advance. In other articles, we notice little or no change.

Money is abundant at low rates of interest.

The Weather was uncommonly fine and the prospects of a good harvest never better.

Effect of Stopping Potato Shoots.—A farmer on the island of Valencia, in the county of Kerry, Ireland, on the 4th of April, when the stalks of his potatoes were about 9 inches high, pinched off half an inch from their tops, agreeably to the plan recommended by Dr. Kluttsch. On the 25th of the same month, the operation was repeated, and the result was, that the dwarf stems became much thicker, and appeared more vigorous than those in the other part of the field, which had been left to grow in the usual way.

Sale of the Late Lord Spencer's Stock.—The sale of the celebrated herd of Short-Horns of the late Lord Spencer, took place at Wiseton, on the 28th of May. The whole number of animals sold was 90, varying in prices from £19 to £180 for heifers and cows, and from £15 to £420 for bulls. The proceeds of the sale amounted to £5,743 10s.

It will be seen from the above sale, that Short-Horn cattle are as highly prized as ever, in England, for it seems one of the bulls brought about \$2,000, and one of the cows over \$900; and yet there are herds in that country, if put under hammer this day, would bring much higher prices on an average.

Resumption of Potato Culture in Ireland.—The cultivation of the potato has been revived in Ireland with increased eagerness. The most trustworthy accounts agree in representing, that, an enormous extent of land is already cropped with it. The peasantry have been selling their clothes, their bedding, and, in short, every saleable thing, in order to procure seed of this calamitous plant.

There seems to be a confident belief, among the Irish, that the potato disease has worn itself out, and they are probably right. For, it has been obvious that the plant has been improving in health for some time past, and that a sound crop may reasonably be accounted upon, for a little while, at least. But the inevitable result must be, sooner or later, a renewal of the famine, which has prevailed throughout the land with such indescribable horrors for a year or two past.

How to Kill Worms.—For lawns, use lime water—for gravel walks, corrosive sublimate.

How to Get Rid of House Bugs.—Pull down all loose paper, remove all loose plaster, take up all old carpeting, &c., and consume them with fire. Fill up all cracks in the walls and ceiling with a mixture of corrosive sublimate and plaster of Paris, or putty; also, all crevices in the floor, as well as the cracks in furniture and the joints of bedsteads, with corrosive sublimate and soft soap. By these means you will exterminate the bugs, but not otherwise.—*Foreign Paper.*

Ornamental Water Fowls are advertised for sale in London, consisting of black and white swans, Egyptian, Canada, China, barnacle, brent and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, shovellers, Gadwall, Labrador, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochín-China, Malay, Poland, Surrey and Dorking fowls; white Japan, pied and common pea fowl.

Fattening Poultry.—Coop up poultry to fatten, and they will do well up to 12 or 14 days. Keep them in the coops beyond that time, and feed them as much as you like, they will grow leaner every day until they grow a skinful of bones, and die.—*Agricultural Gazette.*

Glass Milk Pans are becoming in general use in England, and are advertised at 2s. each, when 12 inches in diameter, and 6s. when 28 inches in diameter.

Curious Mode of Making Butter.—If I want butter only for my own breakfast, I lay a sheet of blotting paper upon a plate, and pour the cream upon it. In a short time the milk filters through, and the butter is formed. If I wish to expedite the operation, I turn the paper over gently upon the cream, and keep it in contact for a few moments, and then press upon it, and the butter is formed in less than two minutes. If you submit it to severe pressure by a screw press, it becomes as hard as when frozen. I cannot think but the simplicity of this mode of proceeding would be universally adopted, if any better material than blotting paper could be thought of for the filter—the paper adhering too firmly to the butter, and the finest muslin admitting the passage of the cream.—*Gardener's Chronicle.*

Shoeing Horses.—At a meeting of the Royal Agricultural Society of England, some time since, Professor Sewell remarked that he had found old horses shod with a layer of leather, forming an artificial sole, between the shoe and the hoof, recover from the severe affections causing injury to the hoof; such, for instance, as contractions, brittleness, sand cracks, or even disease of the foot itself, as thrushes, canker, corns, &c. and perfectly regain its original elasticity and firmness. The mode in question had been practised by Professor Sewell for the last thirty years.

Mode of Bottling Fruit.—Fill the bottles quite full with fruit not quite ripe; place them, with the corks put lightly into them, into a copper of cold water up to the necks, and gradually raise the temperature of the water to 160°, and not exceeding 170° Fahr. Keep them at this temperature half an hour; then take each out separately and fill it up with boiling water from a kettle to within an inch of the cork. Drive in the cork firmly, tie it over, and dip it immediately into bottle wax, and lay the bottle down on its side to keep the cork always damp. To prevent fermentation, turn each bottle half round twice or thrice a week, for two or three weeks; after that, they will need no further care. The corks should be soaked in water two or three days before they are used.—*English Paper.*

Interesting Dairy Experiment.—Many observations have been made as to the best depth of milk for casting up the greatest proportion of cream. I lately found the following result. A lactometer of usual width, 10½ inches high, gave 12 per cent. of cream. A glass vessel 2½ inches wide, with 3½ inches depth of milk, yielded 3½ per cent. of cream; another vessel of glass, with two inches depth of milk, and 10½ inches wide, yielded not quite 2 per cent. of cream. The milk was not a mixture, but all from one and the same cow, and stood 38 hours. This would warrant the opinion that cream is cast up in greater quantity when not placed in very shallow vessels. The cream was carefully taken off the two latter vessels and the skimmed milk put into a lactometer. That from the widest vessel gave 2 per cent. of cream, and that from the second in width about ½ per cent. [Here must be some mistake.] A thermometer placed near the vessels ranged from a little above 47° to nearly 50° the whole time.—*Gardener's Chronicle.*

Editor's Table.

ANNUAL REPORT OF THE COMMISSIONER OF PATENTS, FOR THE YEAR 1847.—We have received from Hon. Edmund Burke, Commissioner of Patents, at Washington, a very elaborate Congressional Document bearing the above-named title, of some 600 pages, illustrated by several wood cuts, and steel engravings. This report, we are happy to state, in our humble judgment, has been got up with more care, more ability, and has more intrinsic merit, than any other document of the kind that has preceded it. In addition to the sub-reports of the examiners of patents, which relate to matters appertaining only to the Patent Office proper, the volume contains a vast amount of agricultural knowledge, both practical and theoretical, as well as statistical, that reflects much credit upon the industrious and talented gentleman at the head of this department, and upon those who have so ably contributed to his aid. One article in particular, by Charles L. Fleischmann, Esq., we think specially claims the attention of American flock masters, stock breeders, and farmers in general, not that it is strictly applicable to this country, but more with the view of showing with what care and attention, what industry, patience, and perseverance, every operation of the farm is conducted at Breslau, in Prussian Silesia, and of stimulating our people to follow, as far as practicable, the same laudable example.

For several interesting articles condensed from this able report, the attention of our readers is invited to the columns of the present and succeeding numbers of the *Agriculturist*.

STATE OF VEGETATION IN NEW YORK.—May 23d, strawberries plenty in market, and the common locust tree in flower; 25th, cherries in market, and the catalpa and paper mulberry in leaf. June 1st, the Isabella grape in flower; 15th, the alicant in flower, and Catawba grapes as large as peas.

ADDRESSES DELIVERED BEFORE THE N. Y. STATE AGRICULTURAL SOCIETY, ON THE FOOD OF PLANTS. By A. H. Stevens, M. D.—This is a neatly-printed pamphlet of twenty-two pages, and is evidently the result of much thought and observation. It contains many hints, both practical and theoretical, which are well worth the attention of the physiologist, as well as the farmer and the gardener.

HORTICULTURAL SHOW AT FLUSHING, LONG ISLAND.—This came off on the 14th and 15th of June, and is said to have been a superior show. A greater and choicer variety of the beautiful and useful of the season were exhibited than usual, showing that the Long-Islanders are in the broad road of improvement. We wish some friend who was present could have given himself the trouble to have made us a report, as it is quite impossible for an editor always to be present on such occasions.

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.—We are politely favored, by some unknown friend, with a full report in the Albany *Argus*, of the first exhibition of this society for the season, held at the Geological Buildings, in Albany on the 14th of June. The flowers, fruits, and vegetables were numerous and fine; and the show, upon the whole, was highly creditable to the counties from which the society takes its name. We notice that Dr. Herman Wendell, of Albany, has already introduced the celebrated Aberdeen bee-hive strawberry, and a new vegetable from China, called the "Hoosung". He says of it, "after being stripped of its leaves, it should be cooked and eaten in the same manner as asparagus, which the stems, in some degree resem-

ble." Dr. W., also exhibited four new varieties of lettuce, viz: the artichoke-leaved, the Malta, the Swedish, or sugar, and the imperial Victoria rhubarb. The Malta is a remarkably bitter variety, but one which the committee believe, when eaten as a salad, prepared with the proper condiments, will be greatly relished by *bon vivants*. The artichoke-leaved variety is a curious but very agreeable one. So also is the sugar and imperial.

We are glad to notice that Dr. Wendell was rewarded by a discretionary premium for his zeal and enterprise in introducing these new fruits and vegetables. Few gentlemen in the country are doing more than he for the advancement of the science of horticulture, and the introduction of new varieties of flowers, plants, and vegetables.

THE LARGEST CORN GROWER IN THE UNITED STATES.—It is said that the largest corn grower in America is William Polk, Esq., of Arkansas, a brother of the President. His crop last year was estimated at 100,000 bushels. The following is the result of his plantation:—Corn \$70,000; cotton \$16,000; pork \$4,000; total produce of the year \$90,000.

HOVEY'S FRUITS OF AMERICA.—The fifth number of this splendid publication has been received, containing colored figures and descriptions of the Late Duke Cherry; the Louise Bonne de Jersey, and Belle Lucrative Pears; and the Porter Apple. The original design of the work, has thus far been fully sustained, and certainly deserves the encouragement of all who are engaged in the cultivation of fruits. Price, in Royal Octavo, \$1 per number—in Imperial Quarto, \$2. C. M. Saxton, Agent, 205 Broadway, New York.

LARGE RHUBARB.—We have received from Mr. J. Brill, of Harsimus, N. J., an unusually large stalk of rhubarb (pie plant), weighing two and a half pounds, without the leaf. The soil in which it grew is a rich sandy loam, situated about one hundred yards from a salt meadow, with which it lies nearly level. The plant had no extra treatment with the exception of one or two waterings with liquid manure.

A GOOD HIT.—The following extract from the report of a committee on hogs, read before an eastern agricultural society, contains some capital hits at a class of bipeds, which are found, perhaps, in every populous town throughout the world:—"Some folks accuse pigs of being filthy in their habits and negligent in their personal appearance. But whether food is better eaten off the ground or from china plates, is, it seems to us, merely a matter of taste and convenience, about which pigs and men may honestly differ. They ought, then, to be judged charitably. At any rate, pigs are not filthy enough to chew tobacco, nor to poison their breath by drinking whiskey. And as to their personal appearance, you don't catch a pig playing the dandy, nor the females among them picking their way up this muddy village, after a rain, in *kid slippers*!"

"Notwithstanding their heterodox notions, hogs have some excellent traits of character. If one chances to wallow a little deeper in some mire hole than his fellows, and so carries off and comes in possession of more of this earth than his brethren, he never assumes an extra importance on that account; neither are his brethren stupid enough to worship him for it. The only question seems to be, is he still a hog? If he is, they treat him as such. And when a hog has no merit of his own, he never puts on aristocratic airs nor claims any particular respect on account of family connexions; and yet some *Hogs* have descended from very ancient families. They understand full well, the common maxim, 'Every tub must stand upon its own bottom.'"

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JUNE 14, 1848.

ASHES, Pot.,	per 100 lbs.	\$4 50	to	\$4 66
Pearls,	do.	6 00	"	6 06
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton.	30 00	"	31 00
BEANS, White,	bush.	75	"	1 38
BEEFWAX, Am. Yellow,	lb.	19	"	22
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLE, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	38
Stearic,	do.	30	"	25
CHEESE,	do.	6	"	10
COAL, Anthracite,	500 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	13
COTTON,	do.	44	"	9
COFFEE, FINE,	do.	15	"	16
FLAX,	do.	30	"	40
FEATHERS,	do.	8	"	9
FLOUR, Northern, Southern and West. rubbl.	do.	6 00	"	6 31
Fancy,	do.	6 50	"	7 00
Richmond City Mills,	do.	6 25	"	6 38
Buckwheat,	do.	—	"	—
Rye,	do.	3 50	"	3 75
GRAIN—Wheat, Western,	bush.	1 35	"	1 40
Southern,	do.	1 05	"	1 25
Rye,	do.	72	"	71
Corn, Northern,	do.	60	"	63
Southern,	do.	58	"	56
Barley,	do.	68	"	76
Oats, Northern,	do.	41	"	48
Southern,	do.	40	"	45
GUANO,	100 lbs.	1 75	"	2 00
HAY, in bales,	do.	46	"	45
HEMP, Russia, clean,	ton.	225 00	"	230 00
American, water-rotted,	do.	100 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	6	"	6
HOPS,	lb.	4	"	6
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	3 75	"	3 80
Pipes for Pumps, &c.	lb.	5	"	6
MEAL, Corn,	bbl.	2 25	"	2 75
Corn,	lhd.	12 50	"	13 00
MOLASSES, New Orleans,	gal.	20	"	24
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 75	"	2 00
Pitch,	do.	75	"	1 08
Rosin,	do.	65	"	75
Turpentine,	do.	3 50	"	2 75
Spirits Turpentine, Southern,	gal.	33	"	34
OIL, Linseed, American,	do.	66	"	67
Castor,	do.	1 50	"	1 70
Lard,	do.	65	"	60
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	1 00	"	1 68
Black eyed, 2 do.	do.	2 00	"	—
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls. of 300 lbs.	do.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	8 00	"	11 00
Prime,	do.	5 25	"	7 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	9 75	"	12 00
Prime,	do.	6 50	"	9 00
Lard,	lb.	6	"	8
Bacon sides, Smoked,	do.	6	"	7
In pickle,	do.	5	"	8
Hams, Smoked,	do.	8	"	13
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	9
Pickled,	do.	5	"	7
RICE,	100 lbs.	3 00	"	4 00
SALT,	sack.	1 30	"	1 40
Common,	bush.	30	"	35
SEEDS—Clover,	lb.	6	"	8
Timothy,	bush.	2 50	"	4 00
Flax, clean,	do.	1 35	"	1 40
rough,	do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	34	"	5
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	7	"	8
TOBACCO,	do.	24	"	24
WHISKEY, American,	gal.	22	"	27
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 15 cents per lb.; Veal, 6 to 14 cents; Mutton, 6 to 15 cents; Lamb, 10 to 15 cents; Ham and Bacon, 9 to 12 cents; Pork, 8 to 10 cents; young Pigs, \$1 to \$2 each.

Fish, &c.—Salmon, from 25 to 31 cents per lb.; Shad (Con. River), 25 to 31 each; Mackerel, 8 to 10 cents; Sea Bass and Black Fish, 8 cents per lb.; Halibut, 6 to 8 cents; Cod, 6 cents; Poggies, 6 cents; Green Turtle, 18 to 30 cents; Lobsters, 6 cents; Oysters, 50 cents to \$1.25 per 100; Clams, 25 to 75 cents per 100.

Poultry and Eggs.—Turkeys, from 75 cents to \$1.50 each; Chickens, 37 to 75 cents per pair; Ducks, 75 cents to \$1 per pair; Pigeons, 75 cents to \$1.50 per dozen; Eggs, 10 to 13 cents per dozen.

Dairy Products.—Butter, from 14 to 18 cents per lb.; Cheese, 7 to 9 cents; Cheese Cakes, 8 for 12½ cents; Milk, 3 to 5 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Apples (Roxbury Russets), from \$3 to \$5 per bbl.; Red Streaks, \$5; Apples in small quantities, 12 to 37 cents per half peck; Strawberries, 2 to 5 cents per half pint; Cherries, 8 to 12 cents per lb.; Green Gooseberries, 8 cents per quart; green Currants, 5 to 6 cents; Oranges, 18 to 50 cents per dozen; Lemons, 18 to 25 cents per dozen; Pine Apples, 12 to 37 cents each; Bananas, 37 to 75 cents per dozen; Chestnuts, \$3 per bushel; Hickory Nuts \$2 per bushel; Peanuts, \$1.25 to \$1.35 per bushel; Coco Nuts, 4 to 6 cents each; Pecan Nuts, 7 cents per lb.; Soft-Shell Almonds, 12 to 14 cents; Filberts, Hard Shell Almonds, and Madeira Nuts, 8 cents.

Vegetables.—Carter and Mercer Potatoes, from \$1 to \$1.25 per bushel; Flesh-Colored do. 62 to 75 cents; New Potatoes (southern), \$1.75 per bushel; Sweet Potatoes, \$1.50 per bushel; Onions (red), 18 cents per string; Onions (Bermuda), \$2 per bushel; Young Onions and Leeks 6 cents per dozen; Cucumbers, 4 to 6 cents each; Tomatoes (southern), 31 cents per quart; Rhubarb (pie plant), 5 cents per bunch; Pumpkins or Squashes (southern), 25 to 50 cents each; Jerusalem Artichokes, 30 cents per dozen; Cauliflowers, 18 cents per head; Young Cabbages, 5 cents each; Lettices, 18 cents per dozen; Asparagus, 12 cents per bunch; Radishes, 12 cents per dozen bunches; Green Peas (in pods), 25 cents per half bushel; String Beans, 35 cents per half peck; Beets, 5 cents per bunch; New Turnips, 4 to 6 cents per dozen; Pot Herbs, 25 to 31 cents per barrel.

REMARKS.—Corn and Pork have advanced slightly since our last, while Hay has receded somewhat in price.

The Weather, though rather cold and rainy, has nevertheless proved very auspicious generally for the growing crops. The Wheat and Rye are all harvested at the south, and turn out well. At the north, the small grains are highly promising, and fast ripening for the sickle. Of Grass, we never saw a greater growth. If the weather prove reasonably favorable this month, an unusual quantity of hay will be made. Corn and Roots are looking finely. The early potatoes are turning out uncommonly well, and as yet, we hear of no rot among them. Sugar, Cotton, Rice, and Tobacco, with few exceptions, promise well. We have heard of some damage by the army worm, the wheat fly, rust, winter kill, &c. &c., but in so extensive a country as ours, such things are to be expected. However, complaints are fewer this year than we have ever known them.

TO CORRESPONDENTS.—Communications have been received from M. Thayer, Capt. W. R. Gray, and F. R. B.

Killing Apple-Tree Borers by Electricity.—W. B. W., of Fishkill, N. Y. You ask if the application of electricity with a machine of sufficient power to kill the apple-tree borer could be done without injury to the tree. We think it could not, as nothing short of a thunderbolt, in the way of electricity, would have much effect on the borer, when he is imbedded in the trunk of the tree. If any means could be devised to communicate a shock of electricity from any ordinary machine, directly upon these insects, instantaneous death would doubtless occur. We have heard several accounts of late where small birds were found dead suspended by their claws on the wires of telegraphs, which were supposed to have been killed by the electric fluid.

ACKNOWLEDGMENT.—An Address delivered before the Rockland (N. Y.) County Agricultural Association, October 21st 1847. By A. B. Conger, Esq.

GUANO.

PATAGONIAN and African Guano, for sale at 2 cents per pound by
AZEL DOWNS.
Being Hollow, L. I., July, 1848.

FIELD AND GARDEN SEEDS.

THE different varieties of wheat, rye, buckwheat, and other grain. Turnip, beet, carrot and cabbage seed of the kind suitable for stock feeding. Lucern, clover, Timothy, orchard grass, red top, ray grass, &c. do. together with a select stock of Field and Garden Seeds, wholesale and retail, at the New York Agricultural Warehouse and Seed Store, 159 and 191 Water street.
A. B. ALLEN & CO., 159 Water st.

ARTIFICIAL MANURES, &c.

ATWATER'S AMERICAN COMPOUND OF MANURES: composed of fertilizing manures, and is designed for growing garden vegetables, fruit trees, vines, and ornamental flowers or plants of every description, as well as for general crops. The quantity required per acre, will vary from 30 to 50 bushels, according to the condition of the land to which it is applied. Price, 40 cents per bushel.

BOMMER'S FERTILIZING POWDER, long been celebrated in France for cultivating garden vegetables of all kinds, greenhouse plants, flowers, wall fruit, field crops, &c., &c. Quantity requisite per acre, from 12 to 18 bushels, to be sown broadcast on the surface and hoed or harrowed in. Price 35 per cask of 45 lbs.

LE DOYEN'S PATENT DEODORIZING, OR DISINFECTING FLUID, designed for destroying putrid smells arising either from animal or vegetable decomposition; also, for immediately purifying sick rooms, water closets, cesspools, steerages of passenger ships, large water, &c., &c.; but mainly for destroying the odor of night soil and converting it into a fertilizing compound applicable as manure. Quantity required to deodorize a common privy, for three or four months, from two to five gallons. Price, 50 cents per gallon. For sale by

A. B. ALLEN & CO., 129 and 191 Water street.

MOUNT-AIRY AGRICULTURAL INSTITUTE.

THIS Institution is located at Mount Airy, Germantown, Pa., (see p. 217 of this number), seven miles from the city of Philadelphia, and is accessible several times a day both by stage and railroad.

The site is proverbial for its salubrity, and is, in every respect, eminently adapted to the objects of an Agricultural Seminary.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NO. VIII.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

TOPPING CORN.

It has long been a mooted question, whether topping Indian corn (that is, cutting off the stalks between the ears and the first joints above the ears), a few days before the kernels are fairly glazed, has a tendency to increase or diminish the yield. Mr. J. Ely, whose opinion on topics connected with practical agriculture is deserving of the highest respect, arrived at the conclusion, from several experiments made by him, on a limited scale, and detailed in Buel's "Farmer's Instructor," that "*about twenty per cent., or one fifth part of the crop, is destroyed by cutting the stalks in the way they are usually cut.*" Experiments have since been made by others, though limited in extent, which have been attended with opposite and variable results, yielding in some instances more, where the stalks had been cut, in others less, while in a few, the yield was essentially the same.

As this is a subject of vast moment to the farmers of a large portion of the United States, it is highly important that the question should be decided by several well-tried experiments on an extended scale. Let a whole field, of one or more acres be taken, of uniform management and growth. Cut the stalks from half the hills, beginning at one end of the first row, cutting the first hill, then leave the next uncut, and thus proceed, alternately, cutting one, and leaving one, throughout the field. As soon as the half from which the stalks have been cut is sufficiently ripe, let the ears be harvested husked, weighed, carefully noted, and stored away to dry. Then, in a like manner, as soon as the other half of the field of uncut stalks has arrived at an equal degree of ripeness, let the ears be harvested, husked, weighed, and dried, in a separate parcel, in all respects the same as those from which the stalks were cut. Then, early in winter, let the two parcels be carefully shelled, measured, and re-

weighed, both before and after shelling, and the results will be a fair test of the comparative merits of the two methods.

In the same field of corn, also measure off one or more acres, cut the stalks alternately, as directed above, from one half of the hills, and leave the other half until the grain has become glazed, or hard, on the outside. Next cut up, close to the surface of the ground, the half from which the stalks have not been cut, and put it immediately into "stooks," or "shocks;" and, as soon as it is sufficiently dried, separate the ears from the husks, weigh them, and store them in the crib. As soon as the other half, from which the stalks have been cut, is well matured, let it be harvested, husked, weighed, and stored in the crib for drying. Then, early in winter, let the two parcels be shelled, measured, re-weighed, and compared as above.

IMPROVEMENT OF EAST-JERSEY LANDS BY GREEN-SAND MARL.

It may not be known to all our readers that there exists along the Atlantic coast a mineral fertilizer commonly called "green marl," which has been of immense service in restoring to productiveness meagre, or worn-out lands. The stratum, in which this substance abounds, as the principal ingredient, commences, as far as known, in New Jersey, at the base of the Highlands of Nevesink, near Sandy Hook, and along the sea shore from a little north of Long Branch to Shark Inlet, thence ranging south-westward, in a wide belt, through Shrewsbury, Marlborough, Squankum, and other towns in Monmouth county, gradually contracting as it runs parallel with the Delaware River, at a distance of a few miles, to Salem. It is then prolonged across the state of Delaware, in a narrow strip, into the easterly part of Maryland, where it disappears under the overlapping formations. It

again shows itself on the Potomac and throughout the tide-water region of Virginia, where the proportion of the so-called "green marl," of New Jersey, is materially diminished.

In New Jersey, between Long Branch and Deal, the bed of marl has been penetrated to the depth of 30 feet. The upper two feet consist of a green clay, seemingly derived from the disintegration of a green granular mineral, intermixed with a large proportion of yellowish-white clay. The main bed, which has a thickness of about 26 feet, comprises several subordinate layers; but all contain a large share of the green grains. Beneath the whole, there is a greyish-yellow clay, in which the grains abound, of remarkably large size, and are associated with numerous casts of shells. In one or two other instances, wells have also been sunk through the bed of marl, and the depth of the green sand ascertained to be about 30 feet. Various fossil shells and other marine productions, amounting, according to Professor Rogers' Geological Report, to considerably more than one hundred species, are found imbedded in this marl.

On a short visit, recently made by us, to the farm of Dr. John S. Bartlett, late editor and proprietor of the "Albion," and to several other farms near the head of Pleasant Valley, in Marlborough, N. J., which had been improved by the addition of marl, we were forcibly impressed in witnessing the luxuriant fields of hay, grain, Indian corn, and other crops, where the original soil was a kind least of all congenial to vegetation, and where, in many cases, there was scarcely sod sufficient to keep the wind from blowing the surface away. Dr. Bartlett pointed out to us a beautiful field of clover, which was strikingly contrasted with the barrenness around it, that had been produced, simply by adding to each acre about 300 bushels of marl. This and other striking proofs of the fertilizing power of this substance ought to encourage the farmers of the whole marl region, referred to above, to search, by boring, or sinking pits, for this manure, on their own lands; for, there can be but little doubt that the agriculture of all light sandy soils, situated within reasonable distances of this marl, is destined, in future, to derive incalculable benefits from its application whenever judiciously and properly put on. As an instance of the advantages to be gained by researches of this kind, we would state, that Dr. Bartlett contracted, last year, for 600 loads of marl, at three miles' distance from his farm, which cost him, in the aggregate, when delivered on his land, about seventy cents per load. A few weeks ago, in examining the banks and bottom of a small stream, running through his place, he discovered an abundance of marl within five feet of the surface, which, on analysis, proved to be similar in character to that which he had been at so much expense in purchasing and carting to within a rod of the very spot where it was found; thus, enhancing the value of his farm, perhaps, fifty per cent.

The value of this marl, as an active fertilizer, when spread on the surface of light sandy lands, in East Jersey, has been amply tested, it is said, for fifty years. Various were the views maintained in regard to its fertilizing principles, and much speculation was offered, in reference to them, as is

usual on similar subjects. It is stated, however, that the problem was first solved by Mr. Henry Seybert, of Philadelphia, who demonstrated that the green sand of New Jersey contained a considerable amount of potash, which seems to afford a satisfactory clue to its mysterious effects.

In comparing the details of the several analyses, given by Professor Rogers, in his Geological Report of New Jersey, it will be seen that the green-sand marl, even when of the greatest purity, is not absolutely constant, either in the nature of the ingredients which enter into its composition, or in their relative proportions. The per centage of the silica varies from 43 to 52.32; that of the alumina, from 6.4 to 8.94; that of the protoxide of iron, from 21.6 to 27.66; that of the potash, from 5.5 to 14.48; and that of the water, from 4.4 to 8.12. It will be found, moreover, that in some instances, besides the above-named elements, that lime enters into the constitution of the green sand, in other cases magnesia; while, occasionally, both occur. The amount of these earths, however, is generally in small proportions.

As our visit to the New-Jersey marl region was somewhat limited, we intend to extend our inquiries and furnish our readers with some further account.

ADULTERATION OF FOOD.—No. 2.

Wheat Flour.—The principal substances employed in the adulteration of flour are potato starch, bean, pea and Indian-corn meal, rye flour, chalk, bone earth (burnt bones), powdered flints, plaster of Paris, and damaged, or inferior kinds of wheaten flour.

One of the simplest methods of detecting flour adulterated with potato starch, is by its weight, or specific gravity—thus a vessel, which will hold one pound of good wheat flour, will contain about a pound and a half of potato starch; hence the amount of adulteration can be estimated to a certain extent.

If a small quantity of boiling-hot water be poured upon flour, in which pea meal is present, the odor of peas will be detected; if bean flour, that of beans. Bean meal, also imparts a rose-colored tinge to bread adulterated with it.

Rye flour, added to wheaten flour, gives it such a decided taste that the fraud is readily detected. The same may be said of Indian meal.

Arrow Root and Tapioca.—The analogy arrow root has to potato starch, has induced mercenary persons to adulterate the former substance with it; and not only has this been done, but we have heard of several well-authenticated instances in which potato starch alone has been sold for the genuine article imported from Bermuda, or the West Indies. There may not be any direct harm in this; that is to say, potato starch has the same nutritive powers as arrow root; but it is decidedly a fraud upon the public to sell so cheap an article at the same price as one which is comparatively costly. Besides, in potato starch, there is a peculiar taste, that brings to mind that of raw potatoes, from which the genuine arrow root is entirely free.

The fraud, however, can readily be detected, as arrow root is not quite so white as potato starch, its grains are smaller, and have a pearly and very

brilliant lustre; furthermore, it always contains peculiar clotted masses, more or less large, which have been formed by the adhesion of a multitude of grains during the process of drying. When genuine, it is odorless and tasteless, and produces a sort of crackling noise, when pressed, or rubbed, between the fingers. The suspected sample, if adulterated with potato starch, when mixed with hot water, will immediately develop the raw-potato color, but if it be pure and unmixed, it will be without smell.

Tapioca is also sometimes manufactured from potato starch, by drying potato flour on metallic plates, heated to about 212°F. The paste immediately forms hard unequal lumps, when stirred; after it is pretty well dried, it is sifted; the finer portions form factitious sago, whilst the larger ones constitute tapioca. When these spurious articles are heated with water, the peculiarly disagreeable odor of raw potatoes is given off.

Bread.—The adulteration of bread is often carried to a fearful extent. Not only is the flour from which it is made falsified by old and damaged grain, and other substances just named in the adulteration of flour, but frequently alum, carbonate of ammonia, carbonate of magnesia, and common bar soap are added to disguise, or improve some bad quality in the flour, or to increase the weight. Bread is also sometimes adulterated with blue vitriol (sulphate of copper), white copperas (sulphate of zinc), both of which are highly poisonous, carbonate of potash, plaster of Paris, and pipe clay.

The practice of introducing boiled potatoes into bread is very common with some bakers. In this, there is nothing unwholesome; in fact, the bread is more palatable; but it is a decided fraud; for the bread made in this manner, is not so nourishing as wheaten bread, and is made far cheaper than if flour alone were used. Hence it should not sell for the same price. Much of the bread made with potatoes is not so nourishing, by at least 20 per cent. as that of wheaten flour.

Alum is employed for the purpose of working up inferior kinds of flour. If omitted, the bread has a slight yellowish-grey hue, as may often be seen in what is called "home-made bread," in private families. Such bread remains longer moist than that made with alum, yet it is not so light and full of "eyes," nor so porous, and it has also a different taste.

The quantity of alum necessary to produce the required whiteness and porosity in bread, depends entirely on the genuineness of the flour and the quality of the grain from which it is obtained. The smallest quantity of alum that can be employed in producing a seemingly good bread, from a bad flour, is stated to be about six grains to each pound of flour; but the quantity generally used is believed to be much more.

Markham, in his "Considerations on the Ingredients Used in the Adulteration of Flour and Bread," states that, in making five bushels of flour into bread, there are added 8 oz. of alum; 4 lbs. of salt; and $\frac{1}{2}$ a gallon of yeast, mixed with about 3 gallons of water.

Although alum, in bread, is not so injurious as some of the materials to be hereafter treated of, yet its daily use is apt to disorder the proper func-

tions of the stomach, and produce costiveness and other inconveniences, more especially with persons having weak constitutions. Its use, therefore, is much to be condemned, more especially as it is employed to disguise the bad quality of the flour.

Carbonate of ammonia (volatile sal ammoniac, or smelling salts), is employed by fraudulent bakers, in order to produce light and porous bread from unwholesome and bad flour, termed "sour." Thus, a material, which in itself, is perfectly harmless, is made use of by the baker, as a mask for fraud. This salt, which chiefly becomes converted into a gaseous state, during the operation of baking, causes the dough to swell up into air bubbles, rendering the bread light and porous, as though it were made of superior flour.

Carbonate of magnesia of the shops, when mixed with inferior kinds of flour, will apparently produce bread of a good quality. The loaves made with it, rise well in the oven, and after being baked, they are light, spongy, and keep well. In cases where new flour is of an indifferent quality, from 20 to 30 grains of this carbonate to a pound, when added, will considerably improve the taste and appearance of the bread. When the flour is of the worst quality, 40 grains of magnesia to a pound seems necessary to produce the same effect.

It has been stated, that not the slightest danger can be apprehended from the use of so innocent a substance as the carbonate of magnesia in the manufacture of bread. This, however, is a mistake; for it is a well-ascertained fact, that the daily use of the common magnesia of the shops, induces the formation of the most dangerous and painful calculi. So that, this species of admixture is to be most energetically condemned, not only on account of the specific action of the substance employed, but also because, by its means, an inferior flour can be used.

But the most deadly fraud practiced in the manufacture of bread, consists in the introduction of sulphate of copper (blue copperas), when the flour used is obtained from bad grain. If the bread does not rise well, a little blue copperas obviates the inconvenience; it also causes the bread to retain much more water. The quantity generally employed is very small, say, about one ounce of the copperas dissolved in a quart of water, a wine glass of which is sufficient for 175 lbs. of flour. Kuhlmann, in Ures' Dictionary, deduces from a series of experiments in baking, with various small quantities of blue copperas, that this salt exercises an extremely energetic action upon the fermentation and rising of dough, even when not above $\frac{1}{10000}$ th part of the weight of the bread employed, or one grain of the copperas for 10 lbs. of bread. The proportion of this salt, which makes the dough rise best, is stated to be $\frac{1}{30000}$ th of a grain to 3 lbs. of bread. If more of the copperas be added, the bread becomes moist, less white, and acquires a peculiarly disagreeable smell, like that of leaven.

The sulphate of zinc (white copperas), is also sometimes employed in the manufacture of bread for the same purpose as the sulphate of copper, the effects of which, we have just described, but it does not act in so energetic a manner. It is equally poisonous, however, and is as much to be dreaded.

Carbonate and bi-carbonate of potash (pearlash

and saleratus), are doubtless employed, in bread-making, not only to destroy the sourness in the flour, or dough, but, in some cases, for the purpose of bringing the bread into such a condition that it will retain moisture for a considerable time; which is, to the baker, a great advantage. The use of these salts has no injurious effects on the bread; yet, if added with fraudulent intent, it cannot be regarded otherwise than wrong.

Common bar soap is sometimes added, to produce lightness and porosity in bread, as well as to make it short and brittle. This is a filthy fraud, the perpetrators of which should be severely punished.

VISIT TO MR. CUMINGS' GARDEN, WILLIAMSBURGH.

WE lately very pleasantly passed an hour or two in the garden of Mr. A. P. Cumings, at Williamsburgh, Long Island, near this city, some account of which may not prove uninteresting to many of our readers. Mr. C.'s grounds, exclusive of those occupied by his mansion, conservatories, out-buildings, &c., embrace nearly three fourths of an acre, having been reclaimed almost from a state of nature within the last five years. At the present time, this garden is a complete mass of verdure, flowers, and fruits, many of which are very choice, or rare, and are natives of the most distant parts of the globe.

Besides an abundance of culinary vegetables, in common use, and the smaller garden fruits, we noticed some forty varieties of the pear, most of which had been grafted on quince stocks, and are in perfect bearing; several varieties of the cherry, including the black Tartarian, one of which produced, last year, thirty pounds of fruit; quite a number of grape vines, in full bearing, comprising the Isabella, Catawba, and Eleanborough, among the natives, and eight or ten foreign ones under glass; several varieties of the quince, among which are the Japan, Portugal, and Van Mons; and a goodly display of the apple, peach, apricot, nectarine, plum, fig, orange, lemon, &c.

Among the ornamental trees and shrubs may be found ten or twelve varieties of the magnolia, the European holly, the copper-leaved beech, the Irish yew, the weeping ash, *Paulownia imperialis*, azalias, acacias, camellias, three species of araucaria, the India-rubber tree, spruce and fir trees, and numerous others.

Among the choice flowers and conservatory plants, may be seen about eighty varieties of cacti, four species of melastoma, four species of aristolochia, among which is the famous variety from Brazil, besides a fine assortment of dahlias, hydrangeas, calceolarias, pelargoniums, pæonias, geraniums, &c., &c. In short, the collection of exotics embraces a more choice and extensive variety than any other private establishment of the kind, in or around New York.

There are several features in regard to Mr. Cumings' garden, which are particularly worthy of the consideration of those who have been deterred from forming similar collections, thinking that it would be attended with an unwarrantable expense, and would require so long a period to bring the fruit

trees into bearing, that they would not live to enjoy them. Although Mr. Cumings' establishment has been in existence only about five years, he already raises more than fruit enough for his family consumption, with a prospect of an annual increase for years to come. Notwithstanding his greenhouse collection, and ornamental plants are, perhaps, inferior to none about the city, they have been obtained at a comparatively low cost. The specimens, when first purchased, were quite small; but, being vigorous and healthy, and having had good attention paid to them, they have grown rapidly, and have furnished the means of propagating many others of the same kind. Thus it is, that Mr. Cumings, in the course of a very few years, has been enabled to present so large and so fine a collection at so small a cost.

As an appendage to Mr. Cumings' garden, we found quite an aviary of fancy barn-door fowls, ducks, and pigeons; also some very large lopped French rabbits. But the most extraordinary thing, in the way of animals, was a grade Durham cow, of a rich strawberry roan color, and nearly all the other characteristics of a thorough-bred. She is of medium size; very fine in her limbs; with a thick, deep carcass; keeps as easily and as fat as a pig; and often has given from 25 to 28 quarts of milk, of the best quality, per day. So many good points united in a cow are rarely found; and we think when they are, they make an animal invaluable. It is a pity that every calf from such cows, whether male or female, could not be saved for breeders. In this way, good stock would soon be made much more common than it now is throughout the country.

REMARKABLE COWS

THE most remarkable cow of which we have any account, for the production of butter, is the "Cramp cow," so called, owned by a man of the name of Cramp, in Lewes, England; she was of the Sussex breed, and was calved in 1799. For five years, from 1805 to 1810, the butter produced from her milk, was from 450 to 675 pounds per year; the latter quantity was afforded in fifty-one weeks and four days, from April 6th, 1807, to April 4th, 1808. The greatest quantity of butter she afforded in any one week, was 18 pounds; and the greatest quantity of milk given in any one day, was 20 quarts.

The next most remarkable cow in this respect, was the "Oaks cow," of Massachusetts; nothing was known of her blood—she was bought out of a drove when she was young. Caleb Oaks, of Danvers, Mass., owned her while the greatest quantity of butter was made from her. In 1813, she made 180 pounds, in 1814, 300, in 1815, 400, and in 1816, 484½ pounds. The greatest quantity of butter made in any one week, was 19½ pounds, and the greatest quantity of milk she gave in any one day, was 18 quarts. Mr. Josiah Quincy, sen., bought her after this trial by Mr. Oaks, but she never afforded so large a yield of butter after she passed into Mr. Q.'s hands, though she gave 16 pounds per week, and her milk was of such extraordinary richness, that five quarts of it frequently afforded a pound of butter.—*Transactions.*

INSTRUMENTS FOR ASCERTAINING THE FINENESS OF WOOL.

At the agricultural school of Von Thäer, I saw two very simple instruments for measuring the fineness of wool; one was to ascertain the number of curves in a wool hair within an inch.

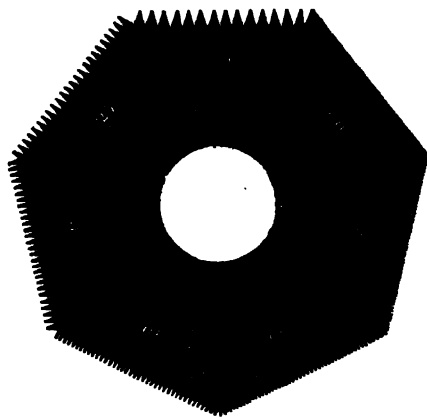


FIG. 59.

This instrument consists of a round flat piece of brass, or other metal, the circumference is divided into five or six inches, and each inch forming fine printed teeth; when the number of curves of a hair is to be determined, the hair is placed over it, in such a manner that the number of curves of the hairs corresponds to the number of teeth on one of the sides of the plate.

Fig. 59, represents such a brass plate.

To ascertain the fineness of a given wool hair, there is used a piece of ebony or other highly-polished, black wood, in the shape of a four-sided pyramid. Upon this is placed a fine wool hair from a known celebrated flock, which serves as a standard; the given wool hair is placed near by and secured with beeswax. When prepared in this way, the pyramid is removed from the observer until the fine wool hair has vanished from his sight, the distance is then marked, and the pyramid again moved until the other hair has vanished. The distance between the first mark and the place where the last observed one has vanished, is likewise marked, and this interval between both marks serves to compare the fineness of other hairs by.

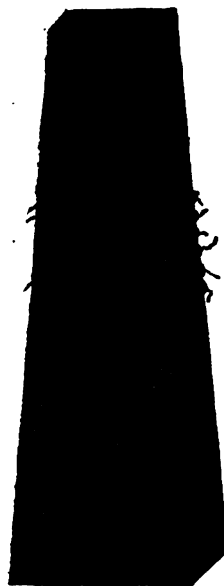


FIG. 60.

Fig. 60 represents such an instrument.—C. L. Fleischmann, in *Patent-Office Report*.

THE COW—HER DISEASES AND MANAGEMENT.—No. 4.

An affection in the cow, which is regarded of much importance, is inflammation of the stomachs. From the complex structure of these parts of the animal, they cannot fail frequently to be the subjects of disease, as she has no less than four of these for the preparation of her food, each of which may occasionally be disordered; but the first and third stomachs are oftener the seat of attack than the other two.

Inflammation of the First Stomach.—This disorder is often difficult to ascertain; being slow in its progress, and therefore, is the more alarming, as the danger may proceed too far before it is discovered. It generally arises from the food of the animal not undergoing a proper rumination (chewing of the cud), by which the process of digestion is interrupted, and it does not pass off as it should do. By this means, too great a distention of the organ takes place, and the contents being acted upon by heat and fermentation, inflammation unavoidably ensues. This disorder is more common in winter than in summer, when dry food is used, which is so apt to lay long in the stomach.

The first symptoms of the disease are a swelling with heat; the animal walks, or rather moves, with uneasiness and fear. Her breath is hurried, and smells strong; the skin fits tight to the ribs; and she feels much pain on pressing down, or pinching, the fore part of the back with the hand.

In curing this disease, the first object is to clear the stomach of its contents; and this will best be done by administering the following dose, well mixed together, and given to the cow in two quarts of whey, or water gruel, with a pint of ale, or beer, and a half pint of molasses:—

Epsom salts, $\frac{1}{2}$ lb.; saltpetre (nitre), $\frac{1}{2}$ oz.; cream tartar, $\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; coriander seed, $\frac{1}{2}$ oz.; fenugreek, $\frac{1}{2}$ oz.; laudanum, 3 drachms; linseed oil, 3 gills.

Before this operates, in order to excite the action of the bowels, a laxative clyster may be given, formed of the following ingredients:—

Epsom salts, 2 oz.; common salt, a handful; sweet oil, $\frac{1}{2}$ pint; water gruel, 3 pints.

In this inflammation, bleeding forms a principal means of cure, and should be performed as soon as the disease is discovered, in a quantity proportioned to the urgency of the case; though it should not be less than three pints, or two quarts.

When the more alarming symptoms are thus abated by a repetition of these remedies, as far as may have been proper, then some invigorating plan must be had recourse to, though it must be conducted with judgment and discretion, and medicines of a heating nature not carried too far. Gentle stimulants are therefore most proper, which will promote digestion, and not excite too powerfully the action of the stomach. Such, for instance as the following:—

Epsom salts, 3 oz.; saltpetre, $\frac{1}{2}$ oz.; valerian, $\frac{1}{2}$ oz.; gentian, $\frac{1}{2}$ oz.; ginger and long pepper, 3 drachms each.

To be given in a pint and a half of camomile tea, and three gills of mild beer, or ale, and repeated once a day till the animal recovers.

Much attention must be paid to the food an

drink that is given to the cow when thus diseased. Nothing cold should be allowed to be taken into the stomach, and the diet should consist of warm mashies, or Indian-meal gruel, and the lightest kinds of food, which should sparingly be given, at the same time. Even when the recovery takes place, the same caution should be observed both with respect to the food and drink; for when the appetite returns, the animal will be very apt to overload her stomach, which, being still weak, may be unable to throw it off, if left to her own will in taking it.

Inflammation of the Third Stomach.—This disease is equally frequent as that of the first stomach, and is commonly known by the names of "maw," "fardal bound," and "lakeburn." It is attended with great danger, if proper steps are not taken to remove it before it gains ground. No time, therefore, should be lost to give the animal relief and check its progress. It is most prevalent in dry summers, and in the latter part of the year.

Several causes give origin to this complaint, the most frequent of which is the cow not having a sufficient quantity of water to drink, as happens in time of drought, when cattle are at grass, and the springs and streams are nearly dry. Hence the food is imperfectly prepared for digestion; and besides this, the water drunk is often of a bad quality, from the habit cows have of standing in the water to cool themselves, where they stale and dung, and thus render it unwholesome. Their food, in consequence of wanting proper dilution, becomes so very dry, that on entering the third stomach (which is of a particular structure, divided into folds), it clogs up the folds, and, by stagnation, turns hard and black, forming a kind of cake betwixt each fold, which never fails to produce inflammation. Besides this cause, the disease may also proceed from poor pasturage, either from the produce of the land being naturally so, or the animal being too long on it at a late season of the year, when it cannot afford an adequate supply of digestible nourishment. The same effect may also arise from the animal eating astringent matter, such as sumach, oak leaves, &c.

The symptoms of this malady are a loss of milk, with little or no appetite; a fullness of the body may also be perceived, and a purging takes place, but only in small quantities at a time, of a dark color, and of a disagreeable smell. When made to walk, or turn suddenly round, the animal will groan, and betray much uneasiness; a cough sometimes ensues; the least exercise fatigues and occasions a shaking of the flank; the extremities of the ears and legs feel cold; and as the disease increases there comes on a difficulty of breathing, with a quick pulse, and apparently much restlessness. When fatal, this malady terminates in mortification.

In order to stop the progress of this disease, the first point will be to bleed as early as possible, to the extent of a pint and a half to a quart, according to the violence of the symptoms, and the strength of the animal; and if in very high condition, from two to three quarts will not be too much. Indeed, in certain cases of high inflammation, and much quickness of the pulse, four or five quarts have been taken with advantage in mitigating the disease.

In all cases of active inflammation, it is to be observed, that one large bleeding will do more service, and check the disease at once, than a number of small ones. These bleedings are to be repeated once every twelve or fourteen hours, the necessity of which will be judged of by the violent symptoms of inflammation continuing unabated. The repetition of bleeding, however, should never be to the same extent as at first. This practice is to be succeeded by the following mixture, to be given to the animal at one dose, in two quarts of water gruel with a pint of molasses:—

Flour of sulphur, 12 oz.; camphor, 1½ drachms; nitre, 1½ oz.; anise seed and cumm seed, ½ oz. each.

In two hours after the drink is administered, a pint of linseed oil is to be given in one quart of strong decoction of camomile flowers, in which one ounce of gum Arabic has been dissolved. This will more powerfully assist the operation of the other medicines, and will be a means of dislodging the hard aliment from the folds of the stomach. The operation of the medicine is generally in twelve hours after it is given; sometimes it is as early as seven or eight hours.

Of all medicines, purgatives are best suited to remove this disease, by their operating upon its cause, which is a retention of dry food in the folds of the stomach; and in cases of dissection, the first stomach is always found very full, from the circumstance of there being no digestion nor passage through the other. Clysters, in this disease, have no effect, as the cause is too distant for their operation.

The first marks of the medicine being successful, is its bringing away pieces of black, caked matter; their thickness being generally about that of a half dollar. This appearance indicates certain recovery, if, at the same time, the animal seems inclined to drink. After the operation of the purgatives, the following medicine may be administered:—

Epsom salts, 3 oz.; nitre, valerian, and gentian, each, ½ oz.; gum myrrh, ginger, and long pepper, each, 3 drachms.

To be given in a pint and a half of camomile tea and a pint of ale for one dose, which may be repeated once a day, or once every other day. In the above prescription the salts are used in a small quantity, to keep the body laxative; and the other materials will give tone to the stomach, and will enable it to throw off the remaining part of the indigestible food which overloads it.

After this, the food and drink of the cow should be the same as recommended for the after-treatment of the inflammation of the first stomach; namely, to avoid giving anything cold, at the same time, making use of diluent drinks.

HOW TO MAKE GINGER BEER.—Take lump sugar (moist brown sugar will do), 1 lb.; bruised ginger, from which the dust has been sifted, ½ oz.; cream of tartar, 4 oz.; and one lemon, sliced. Pour on them one gallon of boiling water; cover up and macerate, until barely lukewarm; then strain and add 2 oz. of yeast. Let the whole work for two to four days, according to the state of the weather; skim the liquid, strain it through a clean flannel, bottle off, and wire down the corks.

AGRICULTURE OF THE CHINESE.—No. 8.

Cultivation of the Mulberry.—On the 18th of May, I passed through an extensive silk district, where the natives were employed in feeding silk worms. The mulberry trees, from which they were fed, were all grafted and produce very fine, thick leaves. I obtained a plant, which is now alive in England, in order to determine the particular variety, and whether it is different from the kinds which are used for the purpose in Europe. It is not yet, however, in a sufficiently advanced state for this to be ascertained. One thing, however, is certain, that the silk produced in this district is considered as being amongst the first in China; but whether this is owing to the particular variety of mulberry tree used in feeding the worms, or to climate or soil, still remains to be determined.

The trees, or rather bushes, are planted in rows, the banks of the canals being a favorite situation; and they are not allowed to grow more than from four to six feet in height. The natives set to work with a pair of strong scissors, and cut all the young shoots off close by the stump; they are then either stripped of their leaves, or taken home in bundles and stripped afterwards. Before this operation takes place, the plants seem in a high state of health, producing vigorous shoots and fine large and thick shining leaves. After the leaves have been taken off, the bushes look like a collection of dead stumps, and in the middle of summer have a curious wintry appearance; but the rain, which falls copiously, and the fertility of the soil, soon revive a succulent plant like the mulberry. The Chinese seem very particular in stirring up the earth amongst the roots of the bushes immediately after the young branches and leaves have been taken off, and the plantations appear to have great attention paid to them.

The farms are small, and are generally worked by the family and relatives of the farmer, who, not only plant, graft, and cultivate the mulberry, but also gather the leaves, feed the silk worms, and wind the silk off the cocoons.

Management of the Silk Worms.—During my progress through the silk district, I visited a great number of cottages, where the worms were feeding. They are commonly kept in dark rooms, fitted up with shelves, placed one above another, from the ground to the roof of the house. The worms are kept and fed in round bamboo sieves, placed upon these shelves, so that any one of the sieves may be taken out and examined at pleasure. The poor natives were greatly surprised when they saw a foreigner coming amongst them, and generally supposed that I intended to rob them of their silk worms. In all the villages which I visited, they uniformly denied that they had any feeding rooms—although the leaves and stems of the mulberry about their doors told a different tale; and they never failed to direct me to go on to some other part of the country, where they assured me I should find them. Before we parted, however, they generally gained confidence, and showed me their collections of worms, as well as their mode of managing them.

Cultivation of Indigo.—In the district of Kiang-soo, my attention was directed to a plant called Tein-ching (*Isatis indigotica*), which is largely

cultivated by the inhabitants for the sake of its blue dye. In the southern provinces a great deal of indigo (*indigofera*), is grown and manufactured, in addition to a large quantity which is annually imported from Manila and the straits. In the north, however, the plant which we call indigo is never met with, owing, I suppose, to the coldness of the winters; but its place is supplied by the Tein-ching, the leaves of which are prepared in the same manner as the common indigo. The color of the liquid, at first, is a kind of greenish blue, but after being well stirred up and exposed to the air, it becomes much darker. I suppose it is thickened afterwards by evaporation; but this part of the process did not come under my observation. I am very much inclined to believe that this is the dye used to color the green teas which are manufactured in the north of China for the English and American markets.

The Chinese Cabbage.—The oil plant (*Brassica chinensis*), is in seed and ready to be taken from the ground in the beginning of May. This plant is extensively grown in this part of China, both in the province of Chekiang and also in Kiangsoo, and there is a great demand for the oil which is pressed from its seeds. For the information of readers not acquainted with botany, I may state that this plant is a species of cabbage, producing flower stems three or four feet high, with yellow flowers, and long pods of seed like all the cabbage tribe. In April, when the fields are in bloom, the whole country seems tinged with gold, and the fragrance, which fills the air, particularly after an April shower, is delightful.

Mode of Extracting Tallow from the Tallow Tree.—The seeds of the tallow tree (*Stillingia sebifera*), are picked at the commencement of the cold weather in November and December, when all the leaves have fallen. This I saw at Singkong when out shooting in the Sah-hoo Valley, close by our quarters, through the village. The seeds are in the first place taken to the building where the process of making the tallow is carried on, and picked and separated from the stalks. They are then put into a wooden cylinder, open at the top, but with a perforated bottom. This is placed over an iron vessel (about the same diameter or rather larger than the wooden cylinder, and about six or eight inches deep), containing water, by which means the seeds are well steamed, for the purpose of softening the tallow and causing it more readily to separate. The furnace I saw had four or five iron vessels in a row, was about three feet high, four or five feet broad, and eight or ten feet long. The fire was placed at one end and fed with the husks of the rice, dry grass, and such like cheap materials which make a great flame, and the flue was of course carried directly under the whole of the iron vessels.

When the seeds have steamed ten minutes or a quarter of an hour, they are thrown into a large stone mortar, and are gently beaten by two men with stone mallets for the purpose of detaching the tallow from the other parts of the seed. They are then thrown upon a sieve, heated over the fire, and sifted, by which process the tallow is separated, or nearly so, although they generally undergo the process of steaming, &c., a second time, that nothing

may be lost. The other part of the seed is ground and pressed for oil.

The tallow now resembles coarse linseed meal, but with more white spots in it, and derives its brown color from the thin covering over the seed (between it and the tallow), which is separated by the pounding and sifting. In this state, it is put between circles of twisted straw, five or six of which are laid upon each other, and thus forming a hollow cylinder for its reception. When this straw cylinder (if I may so call it), has been filled, it is carried away and placed in the press, which is a very rude and simple contrivance, but which, like everything Chinese answers the purpose remarkably well. The press consists of longitudinal beams of considerable thickness, placed about a foot and a half, or two feet, asunder, with a thick plank at the bottom, forming a kind of trough, and the whole is bound together with iron. The tallow is pressed out by means of wedges driven in very tightly with stone mallets, and passes through a hole in the bottom of the press into a tub, which is sunk there to receive it. It is now freed from all impurities, and is a semi-fluid of a beautiful white color, but soon gets solid, and in cold weather is very brittle. The inside of the tubs, which collect the tallow, is sprinkled or dusted over, with a fine red earth, well dried, which prevents the tallow from adhering to their sides. It is thus easily removed in a solid state from the tubs, and in this condition the cakes are exposed for sale in the market. As the candles made from this vegetable tallow have a tendency to get soft and melt in hot weather, they are commonly dipped in wax of various colors, as red, green, and yellow. Those which are intended for religious purposes are generally very large, and finely ornamented with golden characters.

The cake, or refuse, which remains after the tallow has been pressed out of it, is used for fuel, or to manure the land, and so is the refuse from the other part of the seeds from which oil is extracted.

GUTTA PERCHA.

GUTTA PERCHA is a vegetable substance, which, though only known to us for a few years, is now extensively employed in the arts for various purposes, as a substitute for India rubber. According to Sir W. J. Hooker, the tree from which it is obtained belongs to the natural order Sapotaceæ, found in abundance in the island of Singapore, and in some dense forests at the extremity of the Malayan peninsula. Mr. Brooke states that the tree is called *nato* by the Sarawak people, on the island of Borneo, and that it attains a considerable size, even as large as six feet in diameter. The timber, however, is said to be too loose and open for the purposes of building, but the tree bears a fruit which yields a concrete oil used by the natives as food.

The name "gutta percha" (pronounced in English, gut-ta per-tsha), is a Malay term and signifies ragged gum. It is contained in the sap and milky juice of the tree and quickly coagulates on exposure to the air; from twenty to thirty pounds being the average produce of each tree. For collecting the sap, the trees are felled, barked, and left dry and useless. The gutta, or gum, in its crude state, is received in scraps, blocks, or in rolls of thin layers.

It is first freed from impurities by deviling, or kneading in hot water, when it is left soft and plastic, of about the consistency of putty.

When thus prepared, the gutta has many curious properties. If placed in water of a temperature of 110° F., no effect is produced upon it; but when the temperature is raised to 145° or upwards, it gradually becomes soft and pliant, as to capability of being moulded into any form, or of being rolled out into flat plates. When in the soft state, it becomes somewhat elastic, but as it cools, it gradually regains its original hardness and rigidity, and appears, when cut, or broken, like horn. It may be softened and hardened any number of times without injury to the material. When cooled, unlike India rubber, it has little elasticity; but it has such strength and tenacity, that a slip, one eighth of an inch in diameter, has sustained the weight of 42 pounds.

Gutta percha, like India rubber, is soluble in coal naphtha, oil of turpentine, ether, or in caoutchoucine; but it is not acted upon either by alcohol or water. In solution, it is also applied like India rubber for rendering cloth water proof. It is likewise employed for numerous purposes for which leather is used, such as belting for machinery, harnesses, bridles, straps, clasps, belts, clock springs, soles of shoes, &c. The material is also applicable to the manufacture of numerous other articles of use and ornament, as surgical instruments, engine hose, water pipes, door handles, walking sticks, chess men, picture frames, book covers, handles of knives and swords, buttons, combs, flutes, &c., &c. In short, it promises to become quite, if not a more important article in commerce and in the arts, than India rubber itself.

It is stated, on good authority that there are two kinds of gutta percha—one light and the other dark-colored. Specimens of young trees, from which this substance is obtained, are now flourishing in the Royal Botanic Garden, at Kew, near London; but whether they are sufficiently hardy to withstand the climate of any part of the United States, we have not means of knowing.

UTILITY OF THE BLOOM ON THE SURFACE OF FRUIT AND LEAVES.—On the cuticle of the plum and some other fruits, as well as on the surface of the leaves of some plants, we find a bluish, dry powder commonly known by the name of "bloom," which is merely a resinous exudation, and which it is difficult to wet by means of rain or dew. As the water falls, or collects on them, it trickles or slides off, in large drops, without causing injury or rot.

BENEFIT OF ADDING CLAY OR MARL TO SANDY LAND.—Fifteen bushels of clay, or marl, spread uniformly upon every square rod of land, plowed under and well incorporated with the soil, would change its nature to such a degree that it might be called a sandy loam, which is the second or third best earth for general crops.

PERMANENT CUTTING TEETH IN COLTS.—A colt has no permanent incisor teeth till he is two and a half years old, and then only the two front or centre ones.

COST AND PROFITS OF RAISING WHEAT, INDIAN CORN, &c., IN DIFFERENT PARTS OF THE UNION.

THE question is often asked, how much does it cost to raise a bushel of wheat, or corn, in different parts of the United States, and how do the profits attending their culture compare with each other, &c.. For the benefit of these persons, and all others, who are interested in this subject, we condense, from the last Report of the Commissioner of Patents, the following statements from gentlemen in different sections of the country, which, we trust, will afford the information desired:—

Statement of Harvey Huntoon, of Unity, N. H.
—In compliance with your request to procure accurate accounts of the cost of producing crops of wheat and Indian corn in the vicinity of my residence, I herewith transmit my estimates of the same with a succession of hay crops until the ground again requires to be plowed for corn and wheat.

Seed corn $\frac{1}{2}$ bushel per acre, worth,	\$0.50
Interest on land,	1.50
Plowing,	3.00
Planting,	2.00
Hoeing,	2.00
Harvesting,	2.00
Threshing,	1.00
Manure,	8.00
Total cost,	\$20.00
Average crop forty bushels, worth 75 cents per bushel.	
Value of product,	\$30
Cost,	20
Gain,	\$10
Wheat next year, two bushels per acre when prepared for sowing, worth,	\$4
Interest on land,	2
Plowing,	2
Harrowing,	1
Harvesting,	5
Threshing,	2
Manure,	7
Cost,	\$22.00
Average worth,	\$1.34
Value of 20 bushels,	26.00
Cost,	22.00
Gain per acre,	\$4.00
One ton of hay per acre annually for ten successive years, one fourth clover seed sown with the wheat, worth,	\$0.75
Interest on land for ten years,	15.00
Manure,	9.00
Harvesting,	20.00
Total cost,	10)44.75
Cost per ton,	\$4.47
Average worth per ton,	6.00
Value of 10 tons,	60.00
Cost,	44.75

Gain on hay,	15.25
" " wheat,	4.80
" " corn,	10.00

Gain per acre for twelve years, . . . \$30.05

If we deduct the value of the corn fodder which I estimate at four dollars, it will reduce the cost to forty cents per bushel; also the wheat straw is estimated at two dollars, which would reduce the cost to one dollar per bushel. In preparing the ground for corn, about forty loads of manure to the acre are required to make a succession of good crops, which I estimate at fifty cents per load, and expense of putting it upon the land at four dollars (\$24); therefore eight dollars of which is estimated for the corn, seven for wheat, and nine for the hay crop. By treating our poor soil in this way, it would probably produce good crops indefinitely.

Statement of John C. Ambler, of Bethlehem, Ct.
The Hon. T. Smith handed to me some time since a circular issued from the Patent Office, requesting information as to the cost of producing wheat and Indian corn, to which I should have sooner attended, had I not mislaid the communication.

INDIAN CORN.

Preparing the ground for seed by manuring, plowing, &c.,	\$8.00
Tending, gathering seed,	0.25
Threshing, &c.,	7.00
Interest on land,	3.00

50) \$18.25 = 36 $\frac{1}{2}$

Number of bushels to the acre 50. Making the cost of raising a bushel of Indian corn, 36 $\frac{1}{2}$ cts.

There is no wheat raised in this vicinity, and but little in the state. I can give no accurate information respecting it.

Statement of A. Doubleday, of Binghamton, N. Y.—I will give you the result of my experience and observations respecting the cost of producing crops of wheat and Indian corn, in this vicinity.

I estimate the value of our wheat lands, in a good state for a crop, at twenty dollars per acre.

Interest on this at 6 per cent,	\$1.20
Three plowings,	4.50
Harrowing thoroughly,	2.25
One and a half bushels of seed and sowing,	1.63
Harvesting with a cradle,	1.00
Threshing and cleaning,	2.00

\$12.63

I estimate the average yield on good land, well tilled, at twenty bushels per acre, making the cost sixty-three cents and a fraction per bushel.

I have made no account of the value of the straw, nor of gathering the crop into the barn, nor of tending it while growing, because in stating the value of the land I suppose it to be well fenced, and that the crop will cost nothing in tending, and the straw for cattle fodder and for making manure, is worth more than barn room, cartage from the field, &c.

The average crop, agreeably to my statement may be greater than the yield of many fields, half tilled,

and sown at an unseasonable time, but I am confident that I have not *overrated* the production, on an average, of good farms in this county, which receive the culture which I have contemplated in my estimate of expense.

Our corn land I would call worth twenty-five dollars per acre.

Interest on which is,	\$1.60
Once plowing with double team,	2.00
Harrowing,	1.50
Seed and planting,	1.00
Plaster and putting on the hill,	0.37
Plowing and hoeing twice,	2.00
Cutting by the roots and stacking,	0.75
Husking and threshing,	2.50

\$11.62

Average yield, forty bushels. Cost of production twenty-nine cents.

In this amount I have put down nothing for manuring nor hauling, because the fodder obtained from this crop, being cut up when the kernel begins to harden, in the way now universally adopted here, and carefully saved, is worth as much as a moderate crop of hay made from the same quantity of land; and produces as much manure as is needed for future crops.

Perhaps I ought to explain the fact that it costs less to prepare ground for corn than for wheat. The most approved mode of raising a corn crop is, to plant on sward ground, plowing it but once and turning the upper side perfectly under—then harrowing lengthwise until a good tilth is produced. When the soil is not rich enough, stable manure is first spread on the land.

I would also explain my putting the value of corn land higher than wheat land, by remarking that our river bottom and the adjacent grounds, are the best for corn, and are more valued, though back and more elevated lands produce more and better wheat, being less liable to rust and shrinking.

Statement of J. Shearer, of Plymouth, Mich.—After tendering the highest regards, an answer to the following questions will be forwarded to you

1st. The interest on the present value of land per acre, on which the wheat crop is grown at 6 per cent.

2d. The cost of preparing the ground for the seed.

3d. The cost of the seed.

4th. The expense of tending, gathering, threshing, and preparing for the market.

In answer to the foregoing questions, it may be stated that lands, in Michigan, vary much in price, even of the same quality, consequent on improvement and locality. The value of farming lands range from \$1.25 to some thirty or forty dollars per acre. The cost of clearing and fencing over timbered openings, will range from \$8 to \$12 per acre, and these lands compose the great majority of that now in cultivation. The prairies and plains may be brought into cultivation for a less sum than the lands above described, and they compose but a limited portion when compared with them, so that a supposed valuation will be made, after taking into consideration a general view of

the whole subject. Therefore, \$10 will form a principal to cast interest on, and as it requires two seasons to mature a wheat crop of the kind mostly raised here.

1st. Two years' interest may be cast on \$10,	\$1.20
2d. The cost of plowing, sowing, and harrowing,	4.50
3d. The cost of seed, one and a half bushels per acre,	1.40
4th. The cost of harvesting, For threshing and cleaning for market	1.50
	1.50
	\$10.10

Average crop this year per acre fifteen bushels, \$15) 10.10=67½¢

CORN CROP, 1847.

Interest on land at 6 per cent. per acre,	\$0.60
Plowing and harrowing per acre,	1.50
Planting two days, at seventy-five cents per day,	1.50
Cultivating and plowing,	1.00
Hoeing two days,	1.50
Harvesting and shelling,	2.25
	\$8.35

Average crop 50 bushels per acre—value per bushel 30 cts.

OAT CROP, 1847.

Interest at 6 per cent. on land,	\$0.60
Plowing land per acre,	1.50
Sowing and harrowing,	1.50
Harvesting and threshing,	2.00
Seed, two bushels per acre,	0.50
	\$6.10

Oats valued at 20 cts. per bushel.

Average yield, this year, 40 bushels per acre, as you will see no mention made of manure which is set off against the fodder.

That attention is not paid here to manure and seeding which is in the eastern states. The state is new and speedily undergoing the preparation for manure and seeding to clover.

By this statement, the wheat crop falls below the general average crop of our state, from a close examination, even by passing through many wheat fields in several counties of Michigan, and comparing this year's crop with other years, 15 bushels to the acre, as an average amount, is thought full high enough. The past season has been very favorable to the growth of corn and oats.

Statement of S. M. Bartlett, of La Salle, Mich.—In answer to inquiries from the United States Patent Office, inclosed in your letter of the 16th inst., relative to the cost of raising wheat and Indian corn in this vicinity, I send you the following estimates for one acre of each.

WHEAT.

Interest at 6 per cent., on one acre of land at \$15,	\$0.90
Twice plowing the same,	2.00
Twice harrowing do.,	0.50

One and one third bush. seed wheat, at 15 cts. per bushel, . . .	1.00
Sowing and harrowing in, . . .	0.50
Furrowing and cleaning furrows, . . .	0.50
Harvesting, &c., . . .	1.50
Threshing and cleaning (by Pitt's separator), . . .	2.00

\$8.90

An acre thus managed may be safely estimated to yield twenty-five bushels (\$8.90 divided by 25 = 36 $\frac{1}{2}$), at the cost of 36 $\frac{1}{2}$ cts. per bushel. The above may, perhaps, sound somewhat theoretical, but in practice it will be found nearly correct. In proof, I offer, gratuitously perhaps, the cost of each year's crop, with the yield per acre, drawn from accounts carefully kept from the year 1839 to the year 1846, inclusive.

1839, cost 27 $\frac{1}{2}$ cents, average yield 44 $\frac{1}{2}$ bushels.	
1840, " 32 $\frac{1}{2}$ " " " 24 $\frac{1}{2}$ "	
1841, " 28 " " " 27 $\frac{1}{2}$ "	
1842, " 34 $\frac{1}{2}$ " " " 22 "	
1843, " 29 $\frac{1}{2}$ " " " 28 $\frac{1}{2}$ "	
1844, " 56 " " " 12 $\frac{1}{2}$ "	
1845, " 33 $\frac{1}{2}$ " " " 26 $\frac{1}{2}$ "	
1846, " 38 " " " 18 $\frac{1}{2}$ "	

In my estimate, there is no charge for manuring. I cannot say that the crop would not be greatly increased by a judicious application of manure; but the prevailing opinion is, that it tends to promote too great a growth of straw at the expense of the grain.

CORN.

Interest on one acre of land, at \$15 per acre, 6 per cent. 6 months, . . .	\$0.45
Once plowing sward, clover lea, or stubble, . . .	1.00
Harrowing and furrowing, . . .	0.50
Seed and planting, . . .	0.37 $\frac{1}{2}$
Cultivating and hoeing, first time, . . .	0.50
Twice cultivating, . . .	0.50
Husking on the hill, . . .	1.50
Shelling and cleaning, . . .	1.50

\$5.82 $\frac{1}{2}$

An acre, thus managed, will yield fifty bushels (\$5.82 $\frac{1}{2}$ divided by 50, = 11 $\frac{1}{2}$ cents), at the cost of 11 $\frac{1}{2}$ cents per bushel. In this crop manure is seldom used. This fact, however discreditable to the intelligence of the mass of our farmers, speaks volumes in proof of the enduring fertility of our soil, which thus unaided, continues to yield an undiminished tribute to the cultivator.

Statement of R. W. Griswold, of Ashtabula, Ohio.
—Yours, with inquiries of the Commissioner of Patents, as to the expense of raising wheat and corn in my vicinity, is before me.

Most of our farmers raise wheat for their own consumption only, adopting at different times, sometimes a naked summer fallow and at others fallowing wheat after all corn, potatoes, &c., and occasionally turning in a green crop, such as clover. On farms where much wheat is raised, a naked summer fallow is, as elsewhere, the most common system adopted.

Under the latter system the profits are (without rendering an excess of cost over the others), much greater. Still it is disputable what system is the

best, as under the other the profits of a spring crop must enter into the estimate as credit, subject, however, to the loss to the land by two crops instead of one.

Considering a naked summer fallow as the most common method elsewhere, it will, I presume, be most satisfactory to base my estimates on this system.

In the case of corn, my estimates are based on a supposed case where land is so cultivated as to remain in about the same condition; the soils such as on the whole is most natural for corn; that is, dry land free from clay.

On mucky land the crop will exceed fifty bushels, but the expense and risk are greater. On some of our worn-out land, the expense will be much more than the value of the crop. These variable causes will induce a wide difference in the estimates of different individuals.

Question.—What is the expense of raising a bushel of wheat in your vicinity?

Answer.—Fifty cents. Thus,

One acre.

To one third, \$5.40 value of man and labor

of manuring it, . . .	\$1.80
Interest on \$20, two years, . . .	2.40
Plowing once, . . .	1.50
Harrowing four times, . . .	2.00
Rolling, . . .	0.50
One and half bushel of seed, . . .	1.50
Sowing, . . .	0.35
Harvesting, . . .	1.50

\$11.45

Cr. by 22 $\frac{2}{3}$ bushels (average.)

Any of our rolling lands with stumps and under the above system will yield from fifteen to thirty-five bushels, while under the other the average is not over ten. The use of the land for sheep during the two years, while the crop is off and also sometimes feeding the lambs, are not taken into view.

What is the cost of raising a bushel of corn?

Twenty cents. Thus,

Interest one year on \$20, . . .	\$1.20
Manure as above, . . .	1.80
Once plowing, . . .	1.40
Second harrowing, . . .	1.40
Planting, . . .	1.50
Cultivating with man and horse, . . .	3.00

\$10.00

Cr. by 50 bushels (average.)

If the expense of harvesting and stock is included, say, \$1.75, the amount will be swelled, but we do not generally estimate them as the shucks and pumpkins will generally serve them over the last. The same allowance is made in the case of wheat. The straw pays six per cent. on the threshing, &c.

Statement of Thomas J. Henley, of Washington City.—As a general remark, it is true that wheat can be produced upon prairie land at an expense of not exceeding twenty-five cents per bushel, in good seasons when no misfortune befalls the crop. Some seasons the blight cuts off the entire crop. As wheat does not grow two years in succession upon the same land, every alternate year you must

either substitute a rotation of crops, or allow the land to lie idle, which is most generally done. Each prairie farmer must own a sufficient quantity of timber for the purposes of fencing and building. There are three considerations, with many of less importance, which contribute to swell the average expense of producing wheat on the western prairies to probably thirty-five cents per bushel.

I subjoin the expenses of an acre without the cost of the land, for the first crop. For subsequent crops the plowing would be fifty cents per acre.

For plowing an acre of sod, - -	\$2.00
One and a half bushels of seed, -	1.00
Putting in, - - - - -	1.00
Harvesting, - - - - -	1.25
Threshing, - - - - -	1.75
Twenty miles to market, - - -	2.00
	<hr/>
	\$9.00

Your inquiry, however, was as to the expense of production, which would be seven dollars per acre, or twenty cents per bushel, an average crop being thirty-five bushels per acre. There is no rule for estimating the interest on the capital employed, the prices of land are so varying being from \$1.25, the government price, to 30 or \$40 per acre in the back counties. But you may add every possible contingency of expense, and the price of producing a bushel of wheat cannot exceed 25 cents, the sum you have suggested.

I will add here the result of an actual experiment. A gentleman purchased an eighty-acre lot at \$15 per acre, and kept an accurate account of the expenses attending the first crop, including the cost of the land.

For eighty acres of land, \$15 per acre, \$1,200	
Fencing per acre, \$2, - - - - -	160
Plowing, - - - - -	160
Seed, - - - - -	80
Putting in, - - - - -	100
Harvesting, - - - - -	100
Threshing, - - - - -	140
	<hr/>
	\$1,940

The crop averaged thirty-five bushels per acre, and was sold at seventy cents per bushel. The expense of transportation to market was one hundred and forty dollars.

Cost of land \$15, as above, - - -	\$1,940
Transportation, - - - - -	140
	<hr/>
	2,080

Eighty acres, 35 bushels per acre, 1,960

Another eight hundred acres were purchased at one dollar and twenty-five cents per acre, with the following results:—

Eight hundred acres, - - - - -	\$1,000
Fencing, - - - - -	1,600
Plowing, - - - - -	1,600
Seed, - - - - -	800
Putting in, - - - - -	1,000
Harvesting, - - - - -	1,000
Threshing, - - - - -	1,400
Transportation, - - - - -	1,000
	<hr/>
	\$9,400

Eight hundred acres, 35 bushels per acre, 28,000 bushels, 70 cents per bushel, \$19,600.

A variety of results of this kind could be given, but this is deemed sufficient to answer the purposes of inquiry. There may be some errors in the figures, which I have not time to look over, but the basis on the calculation may be relied upon.

SLAKING LIME FOR AGRICULTURAL PURPOSES.

LIME, obtained from marble, or limestone, or from marine or fresh-water shells, by depriving it of its carbonic acid by burning, is known by the several names of *burned lime*, *quicklime*, *caustic lime*, and *lime shells*. As a general rule, a ton of good limestone will yield half a ton of lime shells; but the weight of the latter, per bushel, varies with the kind of limestone used, and with the manner in which it is burned. In some cases, a bushel does not weigh more than 75 lbs., while in others, it will exceed 100lbs., which shows how uncertain the quantity applied to land may be when it is estimated by the measure. Hence lime should be bought and applied to the land by weight.

In slaking, burned lime has a strong tendency to "drink in" and combine with water. Thus, when taken from the kiln and exposed to the air, it absorbs moisture and carbonic acid from the atmosphere, increases in weight, swells out, and gradually falls to powder. Or, if water be thrown upon the burnt stone, or shells, it "drinks it in," becomes hot, swells very much, and falls down in a short time to a bulky, more or less white, and almost impalpable powder. When the "thirsty lime" has thus fallen, it is said to be "slaked" or quenched, and is known under the name of "hydrate of lime." If more water now be added, it is not "drunk in," but forms with the lime a mortar, or paste.

When burnt limestone, or shells, is laid up in heaps in the air and is allowed to draw moisture and carbonic acid from the atmosphere, it falls to a powder of itself, and is said to be "slacked," or "air-slacked." In both of the states described above, the lime is hot, or caustic, and may be properly spoken of as *caustic lime*. If spontaneously slaked, that is, if it be in a state in which one half of the lime is combined with water, and the other half with carbonic acid, it may be said to be only *half caustic*.

When lime, whether it exists in a state of a hydrate obtained by slaking, or is in a caustic or half caustic state, is long exposed to the open air, it gradually absorbs carbonic acid from the atmosphere, and is more or less perfectly converted into a carbonate, or in that condition in which it existed before burning. In this state, it possesses no caustic nor alkaline properties, but is properly called *mild lime*.

In slaking lime for agricultural purposes, it is acceded, as a general rule, that the mode, which gives it the greatest bulk, and at the same time reduces it to the most minute state of division, is the best. This may be effected by laying up the burnt limestone, or shells, into heaps in the air, and allowing them to draw moisture and carbonic acid from the atmosphere, where they will fall to powder of themselves. In practice, it is pre-

ferable to cover these heaps with soda, and leave them for several months, till the lime has completely fallen, or slaked, or till the time is convenient for laying it upon the land. Thus it is often carted into the field, in winter, covered up in heaps, and applied to the land, in spring, or summer, when preparing for green crops. The lime seldom becomes very hot when slaked in this way, unless heavy rains happen to fall, when the surface of the lime heaps sometimes becomes so hot as to char and even set fire to the sods by which they are covered, and convert the whole heap into mortar. When thus spontaneously slaked, rich limes increase in bulk from three to three and a half times. Poorer limes, such as contain much earthy matter, may not swell more than double their bulk. This mode is regarded as the least expensive, requires the least care and attention, and exposes the lime least to become chilled and gritty. And besides, it excludes the too free access of the air, which gradually brings back the lime to a carbonate, or mild state.

The following table exhibits the chemical changes which a ton of limestone undergoes, and the relative proportions in which the several compounds exist in it after it has been burned, slaked, and then exposed to the air, or mixed with the soil, as given by Professor Johnston:—

COMPOSITION.	Limestone.	After burning.	After slaking.	Spontaneously slaked.	Exposed to the air in the soil.
Lime, - - -	114	114	114	114	114
Carbonic acid, - -	84			24	
Water, - - -			34	14	84
Total weight, - -	20	114	144	154	20

UTILITY OF HERBIVOROUS INSECTS.—It may be but sorry consolation to those who are suffering from the attacks of insects, to tell them it is a part of the great plan of creation that the vast and redundant masses of vegetable matter should be kept in check, and that consequently those families of insects which are destined to this purpose are far more extensive, both as to species and individuals, than such as feed upon animal matter. To say nothing of the great tribes of butterflies and moths, which feed in the caterpillar state almost exclusively upon vegetables, there are several families of beetles employed in the same manner—some feeding upon the solid wood, and others upon the bark, flowers, and leaves.

DIFFERENCES IN THE QUALITY OF BARNYARD MANURE.—Fat cattle yield better manure than those which are lean, or cows in milk, because it contains more phosphate of lime. In lean cattle, the phosphate goes to nourish and build up the bones and horns, and in cows it passes off in their milk.

TEMPERATURE OF PLANTS.—Plants with hairy leaves are colder at night than those with smooth ones.

REVIEW OF THE APRIL NO. OF THE AGRICULTURIST.

The Osage Orange for Hedges.—If this tree *does* prove to be a good one for hedges, then I am bold to assert, that in our northern region, the apple tree would prove to be a better one. I do not believe that the Maclura will prove to be fit for hedging, north of latitude 40°, unless it can be acclimated by slow and systematic advance from its home in the south towards our frozen regions. But why go to that trouble, when we have the hardy apple, native among us? The Maclura is just as much a tree as the apple. If a "judicious system of heading down" be pursued with the apple, it can be compelled to grow into a hedge, just as well as the other, which must be "far fetched and dear bought." For an ornamental hedge, nothing can exceed the Maclura; but for service in our climate, I certainly would prefer the common apple tree. Who will try it?

Cultivation of Onions.—I notice this article, just to inquire whether any of your readers have ever grown onions upon a reversed grass sod. I once saw, while travelling over the western prairies, the finest onions I ever beheld. These were grown upon the prairie sod, turned over flat, and the seed sown broadcast and harrowed in; most of it, however, only grew in the joints between the furrows, giving the field the appearance of having been sown in drills. No after-culture was given; for there were no weeds, except here and there a large one to be chopped off with a hoe, or scythe. From this, I concluded that the same practice would do well upon the sod of our domestic grasses. Who will make the experiment?

Advantages and Disadvantages of Subsoil and Trench Plowing.—"Disadvantages!" I cannot comprehend how it can be a disadvantage to loosen and stir up the earth we cultivate. [Read the article again and reflect.] The second objection stated, I can understand. The labor of subsoil plowing "drives out of season the other work on a farm." On a farm! What is a farm? Is it 400 or 500 acres of land "deviled over" with less team and men than could work profitably on forty or fifty acres of land, and find time to use the subsoil plow, without being "out of season?" There is no reason in any objection that I ever heard used against trenching any soil on earth. [Read again and reflect.] If it may be detrimental to crops the first year, the permanent benefit will counterbalance it. But the grand difficulty with American farmers is the ruinous system of spreading over a great surface of soil, without ever searching into it. If Congress, instead of enacting the unwise laws they are so often importuned to do, would pass an act that the public land should only be sold, or given to actual settlers, in small parcels, upon condition that the occupants should *plow deep*, they would do something much more worthy of the representatives of a great nation of farmers.

Agriculture of the Chinese, No. 4.—This article is a strong confirmation of what I have heretofore written upon the subject of substituting other fibrous plants, or rather entering into the cultivation of other fibrous plants, in connection with flax and hemp. It does appear to me that there are several which could be more profitably cultivated in some of the

many climes and soils of our great country, than either flax or hemp. There is another thing that ought to be inquired into. It seems almost certain that *gutta percha* will soon become an article of general use. Perhaps the tree producing this gum can be as well grown upon some of our lands in the same parallel of latitude, as it is in its native home in India. But individuals cannot make these experiments—such things should be done by the national government.

Long-Island Lands, No. 3.—Oak Barrens.—This process of piling and burning brush, I fear, will be found too tedious. I once tried the experiment myself on similar lands, and it proved unsatisfactory. I would recommend that the bushes be cut when in full leaf, and after being cut just so that they can be laid straight, that they then be laid in winrows, care being observed to put the fine, leafy twigs on the outside, and make the whole as compact as possible. Next, turn a broad furrow on to each side of the winrow, and it will be more than half covered. Before setting fire, cover the remainder with a shovel, excepting here and there a place to start the fire. If the winrows could be covered with mud from some convenient swamp, and the whole thoroughly dried before burning, it would add much to the value of the operation.

The Grape Culture in Ohio.—If any one of your readers have passed over this letter of my old friend Longworth, without reading, I beg of him to turn back and peruse it carefully; for I assure him that it is very interesting to all who desire to know anything about the cultivation of this excellent fruit.

History of the Cast-Iron Plow.—This is a most interesting article, which I should like to see copied into every agricultural paper in the Union. And I suggest to the editor that this should be No. 1, of a series of articles, until he has given us a complete history of the plow, from the earliest ages. This subject should be illustrated with cuts, commencing with the old Egyptian plow, and showing the continual advance in improvement up to the present time, when we have an article that seems as though it had reached almost to perfection. Such a history would be exceedingly interesting. Even the present number, if it had been read by the members of the existing Congress, would have been sufficient to save some of them the disgrace that will ever be attached to their names for voting for the plow-tax law, which you so justly condemn.

Management of Calves.—It seemeth like going to battle with a giant, to offer my humble opinion upon any of the branches of cattle husbandry, in connection, and more in opposition to anything advanced by my worthy friend Sotham. But his writings are so like the energetic go-ahead-iveness of the man, that he needs calling back a little to explain. The loose remarks about "small calves" are likely to be quoted in favor of saving the life of every little runt of a calf, because Mr. Sotham says that little calves are the best. And certainly not one in ten of those who raise calves, can tell whether the calf is "well proportioned." Rearing calves, by feeding them, is undoubtedly an economical way, but whether they will make better cattle than those that are permitted to run with the cows, I doubt. And I also doubt whether fall

calves can be raised, particularly on skim milk, to be equal to spring calves. And certainly Mr. Sotham would not recommend farmers who live far from a daily market, to get in the practice of having their calves dropped in "October, November, or December." If he does, then I shall venture to oppose the proposition.

Ladies' Department.—To the Young.—What can I say to aid "a friend" in her appeal to young wives to try to make home, more like what a home should be, to endear husbands to it—to make them know and feel that

"There is no place like home."

The system of education for our girls is so false and foolish, at the present day, that when they come to have a home, they absolutely know nothing about the manner of creating a thousand and one domestic comforts. I would look upon a school that taught the art and mystery of making a happy home, of far more importance than I do much of the fashionable folly, so generally considered as all that is needed to fit a girl to enter upon the duties of a wife and mother.

And now my kind readers, I expect, before you read this number, I shall have crossed "the big pond;" but I hope to return again soon enough, with perhaps a little delay, to keep up my monthly gossip with you to the end of the present volume. I am still your well-meaning friend—REVIEWER.

COLD-WATER BATHING.

For the Benefit of Farmers and Others.—The practice of bathing, it is universally admitted, is not only an act of cleanliness, but is eminently conducive to health. With most persons in active life, the delicate pores of the skin soon become closed by the solid matter of the perspiration or the accumulation of dirt, which require frequent ablution with water, in order to preserve their natural functions. The mere wearing of flannel and washing the more exposed parts of the body, with the daily use of clean linen, is but an imperfect attempt at cleanliness, without being accompanied by entire immersion of the body in water, or by well rubbing it over with a wet towel, or cloth.

Bathing, of some kind or other, is not only conducive to cleanliness, but, both to the physical and mental health of the individual who practices it. For the body cannot be in a healthy condition while the proper offices of the skin are interfered with, any more than would be the case with any of the other excretory organs, placed under similar circumstances. Nor can the mind, dependent as it is on the organization of the body, escape, unharmed, when the animal functions are imperfectly performed. Intellectual and moral vigor are universally promoted by the imperceptible, yet controlling influence of the physical system, and he, who would increase the former, cannot adopt a safer method than that which tends to preserve or improve the health.

It is imagined by many that constant bathing is but little fitted for this country, owing to the changeableness of our climate; and that, an attempt to place a sick man in a bath, in any other than the mildest weather, would be to subject him

to all the horrors of "sniffing, sneezing, coughing, and relapse." That such results from bathing have no existence beyond the minds of the timid, the ignorant, and the prejudiced, must be obvious to every candid person. Even the cold bath, such as is used in the treatment termed "hydropathy," is beneficial when applied with judgment; and it is only when discretion is not exercised, that bathing under any condition ever proves injurious.

Some persons, it is true, are very susceptible of taking cold, and are themselves "living barometers;" but even to them, warm, or tepid bathing, would prove, in many cases, advantageous. One half of the rheumatic twinges, swollen limbs, and cramped joints, would give way to proper confidence and perseverance in this remedy. In short, it must be conceded, that bathing, especially in water at a temperature nearly similar to that of our bodies, is, in itself, one of the most cleanly and health-preserving luxuries, or rather we should say, necessities of life.

The following is a brief notice of the advantages to be derived from a cold bath, as best adapted for the general purposes of health, or will be of much interest to our readers:—

The temperature of the cold bath varies from 45° to 85° F. In a medical point of view, it is considered both tonic and stimulant when not too long continued. In order to produce its full effects, the bather should feel a pleasant glow upon the surface of the body, immediately on coming out of the water. If the sensation of coldness, or shivering, follow, on entering the bath, the immersion should not be repeated.

In using the cold bath, it is of essential importance to know that there is no truth in the popular opinion, that "it is safer to enter the water when the body is cool, and that persons heated by exercise, and beginning to perspire, should wait till they are perfectly cool." For it is a rule, liable to no exception, that moderate exercise ought always to precede cold bathing; as neither previous rest, nor exercise to a violent degree, is proper on this occasion.

The best place for cold bathing is in the sea, a clear river, lake, or pond; but where none of these can conveniently be had, the bathing tub, shower bath, or wet towel may be advantageously employed.

The morning is a proper time for using the cold bath, unless it be in a river, or lake; in which case, the afternoon, or from one to two hours before sunset, will be more appropriate. On the whole, one hour after a light breakfast, or two hours before, or four hours after, dinner are regarded as the proper periods of the day for the purpose.

The best preparation for cold bathing for invalids is, to begin with a warm bath, then a tepid one, after which, in most cases, they may plunge with safety into a cold bath. Generally, an immersion every second day from the commencement of warm bathing to the end of a fortnight, will be sufficiently often; after this, the cold bath may be continued daily. Persons in health, and possessing robust constitutions, should bathe year in and year out, at least twice a week, in cold water, and if these ablutions be performed daily, so much the better will it be for their health.

On entering a cold bath, the head should first come in contact with the water, either by immer-

sion, by being showered upon, or by covering it, a minute or so, with a wet cloth. After this, the bather may plunge into the water headlong. As the immersion will be less felt when it is effected suddenly, and as it is of consequence that the first impression should be uniform over the whole body, the bath ought not to be entered slowly, nor timorously, but with a degree of boldness. A contrary method, in some constitutions, is dangerous, as it has a tendency to propel the blood from the lower to the upper parts of the body, and thus predisposes to a fit of apoplexy. For these reasons, the shower bath is attended with considerable advantage, because it transmits the water quickly over the whole body. Therefore, while in the water, the bather should not remain inactive, but apply brisk and general friction, and move his arms and legs, by swimming, or otherwise, in order to promote the circulation of the blood from the heart to the extremities. For, in all cases, it is extremely imprudent to continue in the bath until the body is attacked with a second chilliness.

The duration of the immersion ought to be short, and must be determined by the bodily constitution and sensation of the individual. In summer, a cold bath may be enjoyed by healthy persons for half an hour or more, while in spring or autumn, one or two minutes will be sufficient. Under similar circumstances, cold water acts on aged and lean individuals with more violence than on those who are corpulent and young. Hence, an old man of seventy, even in the hottest days of summer, can seldom remain in a cold bath, with safety, longer than ten or fifteen minutes; whereas, the robust young man of twenty may safely sustain its impression for nearly an hour.

Immediately after leaving the bath, it is necessary that the bather should quickly wipe himself dry with a coarse towel, or cloth. He should not afterwards sit inactive, but if the season permit, he ought to take moderate exercise, till the usual circulation, and the customary action of the muscles be restored.

The principal advantages derived from cold-water bathing, besides cleanliness and salutary exercise, are either the reduction of excessive bodily heat, or the producing of a healthy reaction of the system. It is also serviceable in the treatment of several nervous diseases, as well as gouty and rheumatic complaints; but as this more appropriately comes within the province of the medical practitioner, it must necessarily be omitted here.

ASH OF THE COMMON POTATO.—In every 100 parts of ashes of the common potato, there are contained the following chemical ingredients:—

Potash,	- - - -	51.5
Phosphoric acid,	- - - -	11.3
Sulphuric acid,	- - - -	7.5
Lime,	- - - -	2.0
Magnesia,	- - - -	5.5
Carbonic acid,	- - - -	13.5
Silica,	- - - -	5.5
Chlorine,	- - - -	2.7
Iron,	- - - -	trace
Soda,	- - - -	0.8

99.8

There are some openings in the roof for the air to circulate—on each side of the walls are mangers denoted by figures 65, 66, and 67, one foot wide of the construction. Fig. 65, is a side view with the rack let down. Fig. 66, a front view, and fig. 67, a side view with the rack put up, when charged with hay, and in the position for the sheep to feed from.

In the middle of the stables are similar mangers for two rows of sheep.

During the lamb season, the lamb pens are put up in the warmest corner of the stable. Fig. 64, shows the mode of putting them together in order to allow room for the shepherd to walk around it, and to see whether the ewes suckle their lambs or not. During the lamb season the shepherd sleeps

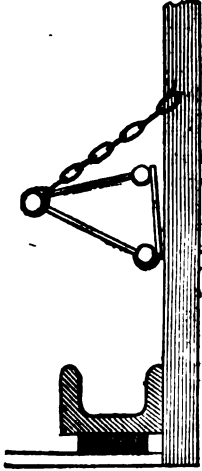


FIG. 67.

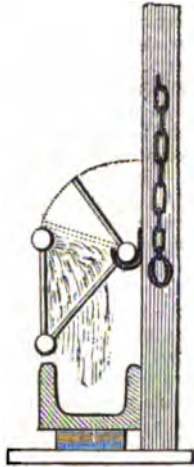


FIG. 65.

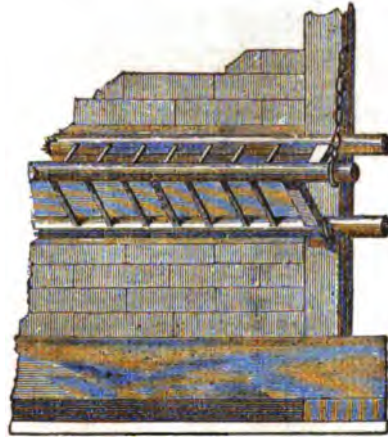


FIG. 66.

in the stable near by the lamb pen.

Fig. 68, represents the front view of a stable built by the viceroy of Hungary, at Alcsúth.

Fig. 69, section of the same, showing the blank roof and floor for the storage of fodder.

Fig. 70, ground plan.

At Von Thäer's, the entrance at each door of the sheep stable consists of an inclined path, of the width of the door, the object of which is to prevent ewes, in a state of pregnancy, from being pressed, or squeezed against the side of the door on entering.

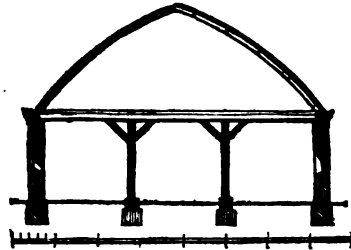


FIG. 69.

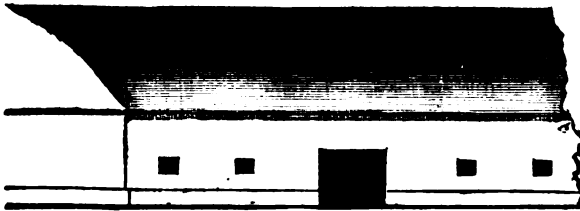


FIG. 68.

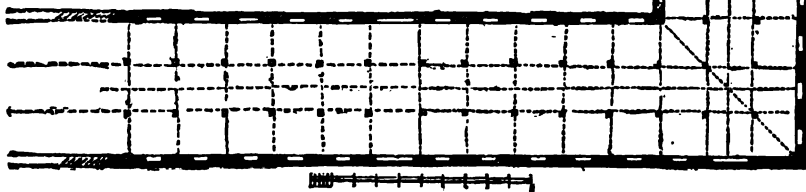


FIG. 70

the stable. The door is about one foot from the ground; to it leads the inclined path as seen in fig. 71, and this path holds just as many sheep as there are spaces between the door posts. Should a sheep force its way to the door, it will displace another on the side, which has to jump off, and take

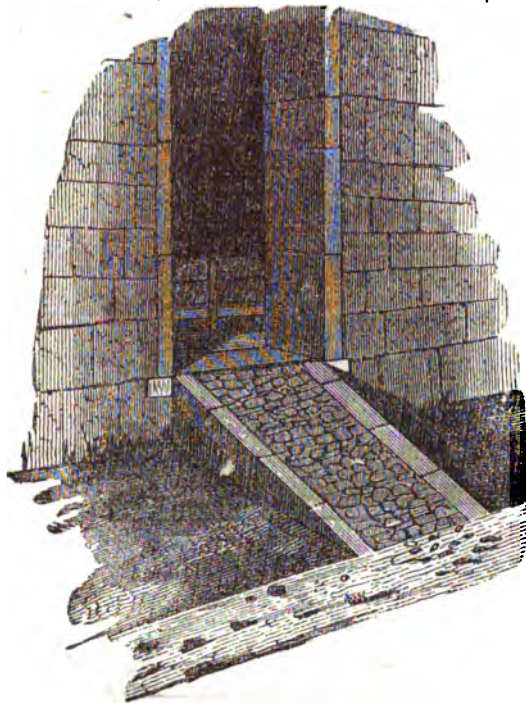


FIG. 71.

its turn with the rest; whereby no injury is done to ewes in a high state of pregnancy.—*Condensed from Patent-Office Report.*

THE USE OF UNBURNT LIMESTONE AS A MANURE.

WILL you, or any of your correspondents, through the medium of the *Agriculturist*, give reliable information concerning the value of marble, such as is found in Arlington, Vt., as a manure? It has been recommended by some to be equally as beneficial as plaster, and it is believed that it can be obtained in this section of the country at much less expense.

S. R. GRAY.

Shubon, N. Y., May 31st, 1848.

In a district where fuel is scarce, and limestone, or marble, plentiful, it might be cheaply crushed into a powder, by means of water power, and thus be economically prepared for improving most kinds of soil which are deficient in lime. But no lands, in which calcareous matter naturally abounds, nor those containing a large proportion of imperfectly decomposed vegetable remains, such as bog roots, moss, &c., can possibly receive any immediate benefit by the use of unburnt lime, unless it be to render them mechanically lighter.

The benefits derived from burning lime for agricultural purposes are partly chemical and partly

mechanical; for, while in a caustic state (quicklime), it acts more promptly in producing those chemical changes which follow from mixing it with the soil. Even in the half-caustic state of spontaneously-slaked lime, its effects are more rapid and more quickly seen, than when it is entirely in a carbonate, or unburnt state. But the principal benefits arise from the minute state of division into which the lime is brought by burning and slaking. When the burned limestone is slaked, if it is tolerably pure, the lime falls, or crumbles, to a powder—finer, probably, than any which could be produced by mere mechanical means—finer, certainly, than any to which the farmer could bring it, by any crushing machine he could afford to employ.

The chief advantages to be derived from this fine state of division of lime, are, first, it may be diffused more equally and more universally through the soil, and thus go much farther in improving it; secondly, it more readily combines with acid substances in the soil, and therefore sweetens it more readily and more quickly; and thirdly, it comes into closer contact with the organic substances in the soil, such as roots of grass, straw, leaves, &c., and thus promotes more fully those chemical changes which are constantly going on in every fertile soil, to produce which, is one of the useful purposes for which lime is added to the land.

The above remarks are not intended to apply to such beds of impure limestone as may be employed for the manufacture of cements and hydraulic mortars; for these, when burnt and ground to a powder, cannot be applied for the improvement of land in the usual way, without combining with the water, or moisture, in the soil and shortly become as hard as stone.

ECONOMY IN BUILDING MATERIALS.

FARMERS and others of this country too frequently build for temporary use. It would be much better for themselves, and surely for their posterity, were they to employ, in the construction of their dwellings and out-buildings, the most durable materials to be had. The habit of building in the manner which has long been practised, had its origin from necessity—to supply the immediate wants of the early settlers. Since that time, the necessity, in most of the states, has been removed. From the cheapness of labor, and the abundance of materials, buildings may now be erected, which, with slight repairs, will last a century.

All kinds of lumber, hitherto employed in the construction of houses, every year, are becoming more and more scarce, and the sooner their use is discontinued, the better it will be for the present and future generations—and give place for their inexhaustible and better substitutes, iron, bricks, and stone.

The outer walls of buildings might be constructed of bricks or stone; the beams and rafters may be formed of wrought or cast iron; the roof may be covered with copper, slate, iron, or tin; and the covering of roofs, partitions, floors, &c., can be made of copper, iron, or tin.

The time is fast approaching when buildings can

be built as cheaply after this manner, as they are at present with wood, being, at the same time, exceedingly neat, beautiful, and convenient, and finished agreeably to the taste and means of the occupant. The design and patterns for casting the materials of one farm house might serve for those of another.

The advantages of such a house are almost an unending durability; comfort, both as regards heat and cold; facility of being kept neat and clean; and proof against fire, rats, and mice.

Woollen and cotton mills, railroad depôts, and ware houses of all kinds should be constructed after the manner suggested above, and my word for it, all parties interested, never would regret it.

H. COOKE.

Tivoli, Dutchess Co., N. Y.

MODE OF MANUFACTURING *POUDRETTE* AT PARIS.

THE most common and well-known manufactured manure is doubtless the *poudrette*, which is prepared from the contents of privies, and contains the earthy phosphates in connexion with feculant and animal matters. An extensive factory, established at Montfaucon, at the very gates of Paris, gives great value to fecal matters by reducing them to a suitable condition for transportation to a distance. Thus a large amount of material, which in other large cities is useless, becomes transformed, by some skill, into a source of profitable revenue.

But it must be remarked, that this mode of preparing the *poudrette* is very imperfect, as it not only incommodes the vicinity, but occasions a loss of a great part of the gases most useful to the vegetation. As the method is still in prevalent use, we deem it necessary to give a more correct process. It is briefly as follows:—

The operation is conducted in six or seven perfectly tight large reservoirs, placed in an elevated position and above the neighboring dwellings. These cisterns are arranged with coupling connexions so that they may be united together, or disconnected, at will. One of them, much more elevated than the rest, is also of a proportionally greater capacity. This is the recipient for all the collected feces of the city of Paris, which is emptied in from casks specially appropriated for its first reception. The reservoir is of irregular shape, being 330 feet long, 150 to 175 wide, and 30 deep; and it is in this vessel that the liquid is separated, merely by decantation from the solid portion. It is drawn off through a conduit, and, passing through a wicker sieve, falls into one of the vessels beneath. There should be five or six of these receiving vessels, and each of 50 to 80 square yards' capacity; but having to contain less solid matter, they are not necessarily so deep as the upper cistern. As has been remarked, these vats communicate with each other, so that there may be a systematic deposition of the matters suspended in the liquid running from the upper cistern. The thin juices then pass consecutively through all the vats, and are again filtered through a fine wicker which catches the solid particles, and allows the free egress of the liquid into a conduit which connects with a sewer emptying into the Seine.

From this, it will readily be seen that the lower cisterns are a long time in being filled with solid matter; a year or more frequently elapses before one is full. When it is so, after several days' repose, it is freed of its liquid with a pump, syphon, or by drawing off. Each vat is emptied in its turn, and again set for the reception of the thin juices which are constantly flowing from the large upper cistern. This latter, when sufficiently full of solid matter, must, after the excess of liquid has been drawn off, be worked in the same manner as the lower vessels.

The vats of Montfaucon are so badly arranged as to render it necessary, while working the upper vat, to continue adding the nightsoil. Care, however, is taken immediately to separate the more liquid portion and run it into the lower vessel. The process will be more readily and uniformly conducted if there are two reception reservoirs, so that while one is being worked the other can be filled.

The mode of operating and managing the vats is very simple. When the matters have been sufficiently drained, open the gangways leading to the bottom of the reservoirs, and then gradually lift out all the matter. The dung carts empty their contents upon a contiguous field, where it is dried in manner as follows:—The fecal matter is first spread uniformly over the whole extent of the lot, and, after some hours, must be harrowed so as to present new surfaces for evaporation, and thus hasten its desiccation. The harrowing is repeated several times, and until the drying is complete; then the matter must be thrown into piles, and after a proper repose, it is again spread out into thin layers and crushed to powder. The gravel and other coarse impurities with which it may be contaminated are separated by a riddle, or sieve. Thus prepared, the *poudrette* is ready for use or exportation. In the mean time it is stacked in piles of two or three cubic yards' bulk.—*Dumas.*

IMPORTATION OF PURE-BRED SHEEP.

WE had the gratification of examining a superb lot of nineteen Merino sheep, which arrived at this port on the 28th of June, in the ship *Argo*, from Havre. They were the property of Mr. John A. Taintor, of Hartford, Connecticut, and are the third importation he has made of this breed—the first being in 1846, and the second in 1847. These sheep will probably be followed by a few others equally choice next year. Mr. Taintor's object in these annual importations is, to keep up a succession of fresh crosses in his flock, and thus enable him at all times to supply sheep masters with bucks of different families, in order to prevent the deteriorating influence of in-and-in breeding.

These sheep possess the same characteristics as the first of Mr. Taintor's importation, which we so particularly described at page 266 of our fifth volume. The ewes varied in height (measuring with the wool off, on the bare skin), from 25½ to 29 inches over the withers; and in weight, in moderate condition, from 124 to 153 lbs. The bucks were proportionably large. They not unfrequently weigh over 200 lbs. The fleeces are enormous, of good quality, and very even. In addition to all of the above-named excellencies, these sheep possess fine forms, and have uncommonly good constitutions. Indeed, they have wool enough over them,

and look sufficiently hardy to withstand the rigors of an arctic winter.

Those breeders, who desire to obtain a fresh cross in their flocks, increase the size of the sheep, and add to the weight and evenness of fleece, we can confidently recommend to the produce of Mr. Taintor's importation.

A FEW SIMPLE FACTS.

It has frequently happened that valuable lives have been lost by persons who have taken saltpetre (nitrate of potash), by mistake for Glauber's, or Epsom salts. The appearance, and even the taste of these articles are too similar to be readily distinguished by people in haste, or those who are not much in the habit of administering medicines. A very little elementary knowledge of their chemical properties, which are extremely unlike, might prevent intense suffering, or even loss of life from the effect of taking into the stomach saltpetre, instead of either of the intended harmless drugs. Therefore, when a dose of Glauber's salts is to be taken, and the box, or bottle, is not properly labelled, or a suspicion arises, that there may be a mistake, throw a small portion on some burning coals, and if no unusual appearance takes place, if it only damps the fire, or crackles a little, like common salt, it is the desired salts, which are incombustible; but if it is saltpetre (one of the component parts of gunpowder), it will deflagrate, or burn, with sparkling rapidity, and cannot be swallowed without great danger to health.

If, however, the mistake is discovered too late, give as quickly as possible, mustard and water, until it acts freely as an emetic; and when the stomach is well cleansed, give flaxseed tea, mallows tea, or any other tasteless mucilage; and then administer, if necessary, small doses of laudanum.

Laudanum has often been given by inexperienced persons, or by careless, or unprincipled nurses, instead of syrup of rhubarb, or other common medicines, which it much resembles in color and consistence. As soon as it is discovered, if the stomach pump cannot be resorted to, give emetics of mustard and water, repeated at short intervals, until all the laudanum is thrown off; keep the patient in motion to prevent sleep, and then give some warm mucilage.

In order to prevent the excessive, or too long continued effect of an emetic, give Peruvian bark, mixed with water; or if that is not at hand, a cup of very strong tea without sugar or milk, and afterwards a few drops of lavender compound. The nausea can be relieved by the application of a mustard plaster laid over the "pit of the stomach," made by mixing mustard with whiskey, or hot water, and kept on until the skin becomes red, or the burning extreme, say fifteen or twenty minutes. If left on too long, the blister becomes very sore, and is difficult to heal. A piece of *very* thin muslin, or gauze, should always be placed between the skin and the plaster, to prevent it from sticking, and to facilitate its removal.

When arsenic, which strongly resembles magnesia, has been given by mistake, or with poisonous intent, large doses of magnesia speedily administered, will often prove an excellent antidote.

If insects are taken into the stomach, their lives

can be destroyed by swallowing strong vinegar, in which salt has been dissolved.

The air of a vault, or well, that has long been shut up closely, is unfit for respiration, and is fatal to animal life, if taken into the lungs. This is owing to an accumulation of carbonic acid gas, which, being heavier than common atmospheric air, naturally sinks to, and remains at, the *bottom* of the cavity, and therefore is not easily detected. Such places should always be entered with extreme caution, and the presence or absence of the noxious vapor ascertained, which can easily be done by lowering a lighted candle to the bottom of the well, or vault. If it continue to burn freely, the air is fit to breathe, and the place may be entered with impunity; but if it promptly extinguish a lighted candle, after repeated trials, danger lurks at the bottom, and means must be taken to expel the gas, before the life of a fellow creature is exposed to certain destruction.

The knowledge of the distinction between arteries and veins is of the utmost practical importance, particularly to people residing in districts remote from surgical aid, where those who receive serious wounds may actually bleed to death for want of such easily-acquired information. The arteries are composed of no less than four very firm, strong, elastic membranes, or coats, and this, as well as their being generally deeply seated in the flesh, to guard them from injury, renders them less liable to be hurt by accident; but when cut, or wounded, the firmness of these coats prevents their closing, and hence arises the fatal tendency of wounds of large blood vessels, which will remain open till they are tied up, or till death ensues. Another distinctive character is, that the pulse of the heart is felt in the arteries only.

The veins lie near the surface; and bleeding from them may readily be stopped, in common cases, by closing the orifice, and bandaging in the manner usually adopted by operators after having opened a vein in the arm, or foot.

When a person, or animal, is seriously wounded, and a surgeon cannot immediately be procured, ignorant by-standers will often content themselves with laying on a little lint, or cobweb, or some other trifling application, wholly inadequate to the case; they ought to know that when such remedies fail, and more especially when the blood flows from the wound by pulsatory leaps, it should be arrested by mechanical compression, until professional aid can be obtained. This can easily be done by the most ignorant person present, by winding a string, or bandage, tightly above the wound. Those more skilful, or better informed, may take up the severed artery, and twist, or tie it up.

By thus acquiring a little elementary knowledge, and thoughtfully bringing it into use, in cases of unexpected peril, we should be enabled to act the part of the good Samaritan with happy effect; whereas, without it, we must be idle, and perhaps agonized spectators of human suffering, deeply reproaching ourselves when too late, with selfish neglect of opportunities for learning what can hardly fail, at some time or other, to be useful to our fellow creatures, in their own persons, or in the domestic animals that, either by their services during life, or by their death, contribute so materially to our comfort and well-being.

* M. *

ANOTHER FACT RELATIVE TO THE POTATO DISEASE.

At a late meeting of the Executive Committee of the N. Y. State Agricultural Society, held at Buffalo, Mr. F. J. Betts, of Newburgh, communicated the following information relative to the disease of the potato:—"I have this year planted potatoes in my forcing house, which ripened some three weeks since, and upon digging them I found several entirely rotten. I deem this fact of some importance in ascertaining the nature of the disease, as it certainly refutes some of the theories in respect to it. The house is kept at as even a temperature as practicable, without the use of artificial heat, and the ground is continually moist; neither sudden alternations of heat, therefore, nor sudden changes from dry to wet, can be the cause of the disease. The soil is made $3\frac{1}{2}$ feet deep, very rich, from an admixture of well-rotted manure, muck, and shell marl, and limed very heavily. Such are the facts, and they may assist in arriving at some just conclusions in respect to the disease.

KILLING THE BUFFALO.

No animal requires so much killing as buffaloes. Unless shot through the lungs, or spine, they invariably escape; and even when thus mortally wounded, or even struck through the very heart, they will frequently run a considerable distance before falling to the ground, particularly if they see the hunter after the wound is given. If, however, he keeps himself concealed after firing, the animal will remain still, if it does not immediately fall. It is a most painful sight to witness the dying struggles of the huge beast. The buffalo invariably evinces the greatest repugnance to lie down when mortally wounded, apparently conscious that when once touching mother earth, there is no hope left him. A bull, shot through the heart, or lungs, with blood streaming from his mouth, and protruding tongue, his eyes rolling, bloodshot, and glazed with death, braces himself on his legs, swaying from side to side, stamps impatiently at his growing weakness, or lifts his rugged and matted head, and helplessly bellows out his conscious impotence. To the last, however, he stands upright, and plants his limbs further apart, but to no purpose. As the body rolls, like a ship at sea, his head slowly turns from side to side, looking about as it were, for the unseen and treacherous enemy who has brought him, the lord of the plains, to such a pass. Drops of purple blood spirt from his mouth and nostrils, and gradually the failing limbs refuse longer to support the ponderous carcass; more heavily rolls the body from side to side, until suddenly, for a brief instant, it becomes rigid and still; a convulsive tremor seizes it, and, with a low, sobbing gasp, the huge animal falls over on his side, the limbs extended stark and stiff, and the mountain of flesh without life or motion.

Notwithstanding the great and wanton destruction of the buffalo, many years must elapse before this lordly animal becomes extinct. In spite of their numerous enemies, they will exist in countless numbers, and, could any steps be taken to protect them, as is done in respect to other game, they

would ever remain the life and ornament of the boundless prairies, and afford ample and never-failing provision to the travellers over these otherwise desert plains.—*Ruxton's Mexico and the Rocky Mountains.*

AMERICAN HOLLY HEDGES.

THE American Holly is the sturdiest and best armed tree in the world, flourishes in all locations, and presents, in a few years, a barrier which defies the inroads of man and beast; and in its red berries furnishes such a grateful repast to the birds, during the winter and spring months, that they, too, are enticed from depredations on the spring crops, and seek shelter and bounty in its thick impenetrable covert. A great error has always prevailed in regard to the uncertainty of transplanting the holly, but from our experience and observation, there is no tree more easily and successfully removed. We have seen them succeed when trees four inches in diameter were taken up, but they had been entirely divested of their tops. Our friend, Mr. Jno. C. Singleton, residing near Columbia, has a garden hedge in front of his house, of several hundred small holly trees, transplanted from the adjacent woods, and lost not a single plant where they were entirely undisturbed.

The holly is easily propagated from the seed, which must be subjected to the following process, which makes them vegetate freely:—In the fall, after frost, take a large quantity and bury them in a heap, in a soil not too moist. Let them remain until spring, when upon their being planted in drills, in finely-prepared soil, they come up quickly, and a number of them make plants enough for transplanting the first year. It is, however, best to leave them till they are two years old, when upon planting, each plant should be cut off to within two inches of the ground. They should be planted in double rows, eighteen inches apart—the trees being broken in the ranks, and distant from each other in the rows, about fifteen inches. After the holly is well set, it requires no artificial culture. It is best, however, to shorten the plants down every year, until the whole wall is a stout barrier of living trunks, and then it may be left to the care of nature.

A holly hedge, or indeed any other, should be planted in the soil prepared with a view to support the growth of the plants for years to come. The best plan is to dig a wide, but shallow ditch, into which, after throwing the top soil, place vegetable mould, muck, animal manure, and, in fact, all such materials and rubbish, usually found about the farm, which is conducive to the growth of trees. When the trees have taken root, and in order to make a good, sound, enduring wood, they should receive a dressing of wood ashes, or old lime. With these precautions, every farmer could have a good hedge in ten years, for the same labor and cost that it would take to keep a rail fence on the land for that time.—*South Carolinian.*

APPLICATION OF MARL.

Marl and sand, you'll have good land;
Marl and clay, you'll throw all away.
Old English Proverb.

CULTIVATION OF THE PEANUT IN EAST JERSEY.

In the May number of the *Agriculturist*, you state that it would be interesting to know how far north the peanut will grow, or mature its seeds, in the open air. Although the cultivation of this plant has been limited to the south, it may not generally be known that it yields abundantly in East Jersey, near the sea coast, where the soil is light and sandy, provided the season is not too short.

The time of planting, in this place, is about the first of May; and if the vines are kept from the frost until the middle of September there will be a full crop. The nuts are planted in drills, three feet apart and six inches from each other. It is not necessary to start them in hot beds nor by artificial heat, as the growth is sufficiently rapid to render this unnecessary. They vegetate in four or five days after planting, and quickly rise out of the ground, soon after which, a plow, or cultivator, is run between the rows, and then followed with the hoe, carefully drawing the earth around the young vines.

Early in the season, there appears on the vines, near the roots, numerous small, yellowish blossoms, which are soon succeeded by the formation of nuts. At this period, the vines are bent down and covered with earth, barely leaving their tips in sight, which fact has given rise to the idea that the peanut blossoms under ground. This process of burying the vines causes a new set of runners to shoot out, and consequently the formation of another set of flowers and nuts. Hence, as long as the operation of covering is repeated, the yield will be increased; but if the season be short and subject to early autumnal frosts, the crops will be proportionably less.

The nuts are usually harvested soon after the frost kills the vines. If pulled, while the plant is yet a little green, the nuts nearly all adhere to the vines, and may easily be gathered. As soon as they are picked, they are rinsed in water, the earliest and best, selected and carefully dried, for seed, while those intended to eat, or for the market, are kill-dried, or baked with moderate heat.

The yield of nuts, in this place, as far I am able to judge, is about 125 bushels per acre.

J. M. B.

Cedar Creek, Monmouth Co., June, 1848.

FACTS IN REGARD TO CUTTING UNRIPE CORN.

—It is stated in the *American Farmer*, that Indian corn, if cut many days before it is fairly glazed, will ripen, and that, too, in most instances, without any apparent diminution either in quantity or quality of the grain. In several instances, which have fallen under the observation of the editor of that paper, it has, when cut at the roots before the kernels had become fairly "speckled," filled even more rapidly than while standing. That the stalks afford nutriment, even for some days after cutting, he says has been fully demonstrated by the fact, that an ear, plucked at the time of cutting, will shrivel and be very imperfect; whereas those that remain, will "fill out" and become sound corn.

SOILS which are chemically and physically alike are agriculturally equal.—*Prof. Johnston.*

YANKEE FARMING.—No. 7.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

AFTER the hay and grain harvest is finished, it is customary in our part of the country, for the farmers to take a few days' recreation, as a sort of recompense to the hard toil demanded of them during this very busy season. Among other things that myself and wife, in conjunction with the Doolittle's, had devised to accomplish during these holidays, was a visit to Sisters Sally and Lizzy; for the women folks wanted to have a good set talk, and I was desirous of looking over the farm with their nephew, and also of examining their vegetable garden, which is considered the best cultivated and the most famous in the whole township of A-gok-ne-quaw, save that of Squire Jones.

In accordance with this arrangement, immediately after dinner, I harnessed my fast-trotting Canadian to a light carry-all, took in my wife and baby, and proceeded to Mr. Doolittle's. We found Aunt Nabby and Molly nicely dressed and waiting our arrival; but as for Uncle Sim, he had been over-persuaded by the boys to give up the old ladies' society, and had gone off on a fishing excursion with them down the clear waters of Silver Brook.

I was a little disappointed at losing the company of Mr. Doolittle in this unceremonious way; but as there was no help for it, I resolved to indemnify myself in the society of the ladies. My carry-all having two seats in it, I could easily accommodate Aunt Nabby and her daughter, and so I told them they had best direct the old mare to be unharnessed from Uncle Sim's heavy chaise, and ride with me. Mrs. Doolittle concluded that this would look more "social like," and as she declared she "hadn't had a sight 'o Miss Teltrue for morn'n as good as a whole livin' week, she was half dyin' to get somebody besides her own folks to talk to, now and then," very readily accepted my offer.

It was a circuitous and retired road that led to the Misses Thompson's, (the family name of Sisters Sally and Lizzy), and though the farms that lay upon it were tolerably well cultivated, little or no attention was paid to the gardens, beyond a small patch of early corn and potatoes, a few rows of beans and peas, here and there a straggling squash and cucumber vine, with an occasional stray melon, a narrow bed or two of stunted onions, beets, and parsnips, and a square rod of cabbages. As for flowers, it was rare to see a few morning glories trained up the sides of the house, and still rarer to find the variegated four-o'clock, or sweet-scented marigold. The gaudy poppy was more common; and nearly every garden had its ample bed of saffron, while the sunflower reared its tall, thick stalk, crowned with a great broad disk, in considerable profusion. But I doubt whether even these last flowers would be cultivated among my neighbors as they are, were it not that the first is a grand family medicine, as they term it, and that the abundant seeds of the latter are useful to make oil and fatten chickens. Not a lilac tree, not a snow-ball, nor even a rose bush (unless it were a wild one left to flourish, from mere carelessness to cut it down), was to be seen. As Molly sat by my side

while driving, and as we are both extravagantly fond of flowers, and cultivate them to a considerable extent, we could not but wonder at the want of taste on the part of the farmers' wives and daughters, in not giving more attention to these beautiful things, which, if they did, even in a moderate degree, it would make this one of the most delightful rural districts that surround us.

We found Sisters Sally and Lizzy in excellent health, and, primly dressed in the old seventy-six style, waiting to receive us; and as we alighted from the carry-all, they welcomed us with unaffected cordiality. The compliments of the day being passed, the ladies soon got into a regular domestic chat; but, as I took no particular interest in the subjects of their discourse, I soon left them to enjoy it among themselves, and proceeded to hunt up the nephew, who had the superintendence of the farm. I found him at the head of a gang of men just finishing the mowing of a wet meadow. As I came up, he arranged with them to go on with the work, and we then proceeded to walk over the farm a while, and inspect the crops. After tiring of this we returned to the house, when Sister Lizzy undertook to show us the glories of her vegetable garden; for my readers must know, that this is as much a hobby with her as the poultry is with Sister Sally. But the great difference between them, is, that the one excels as much in her department as the other fails in hers, except so far as the rearing of a numerous, incongruous progeny is concerned.

The Garden.—The ground of Sister Lizzy's garden could not have been better situated. It lay east of the house, and commenced with a terrace of light gravelly soil. Descending this, it changed almost instantaneously to a sandy loam, which improved in fertility till it ended at the level border of a wide meadow, with a soil exceedingly rich, and at least, three feet deep. No fruit trees were allowed to grow in this garden, Sister Lizzy contending that they properly belonged to an orchard by themselves; and, moreover, that the shade was injurious to the vegetables, and the roots in the way of the hoe, the spade, and the plow; for she made it a point to work the ground to the depth of two feet, at least, every spring, and keep the surface well stirred all summer; verifying the quaint old saying,

"The more we hoe,
The more we grow."

The sides of this garden were trellised with grape vines, interspersed with the raspberry and blackberry, while the walks were bordered with the currant, the whortleberry, and the gooseberry. Early strawberries were grown on the warm, dry ground of the terrace, and late ones in the cool, rich soil at the foot of the garden. All the other fruits which would bear it were assorted over the ground in the same way; and thus, in this small space alone, they were supplied in sufficient abundance from the first of June till the last of October. In like manner were the early and late vegetables grown. Thinks I to myself, I wish the slender, bustling Madam Lizzy, with her quick eye and shrewd sense, had charge of the department of her fat waddling Sister Sally, she would soon make a change in the breeding of their poultry. All her movements in the garden were directed by an en-

lightened experience; but prejudice, and old maids' whims, ruled over the affairs of the poultry yard.

We had scarce set our feet upon the terrace, in order to examine the productions of the garden, when, who should appear riding up the road, but one of our assistants in Uncle Sim's late mowing bee, Mr. James Jones. He was mounted on a high-spirited young horse he had just commenced breaking, and moved at a rapid rate. He was about passing the house without recognising our party, when I hailed him to know what was his great hurry. He pulled short up, doffed his hat, and saluted us all round. Sister Lizzy asked him to stop and spend the afternoon. As he was merely riding out for exercise, and had nothing particular on hand, he concluded he would do so.

Influence of the Moon.—Sister Lizzy had just got through showing us her vegetables, and the manner she cultivated them; how she preserved the most perfect for seed, and the best of this seed when fully ripe; the improvement in their quality, and a greatly increased production in consequence of her care, &c. She then turned to the subject of the influence of the moon, and began demonstrating the wonderful effects of its light, particularly in the growth of melons, pumpkins, squashes, gourds, and, above all, her favorite nonpareil, and short prickly cucumbers. After listening to Sister Lizzy at some length, Mr. Jones grew rather impatient under the moonshiny lecture, and ventured to suggest that the mineral and organic matter, which composed the fertilizing part of the manure that she had so bountifully applied to the garden the past spring, was now rapidly decomposing and assuming a soluble shape, so that the plants could easily assimilate them; this, with the superior vivifying light of the sun, and some late genial showers, rather than the moon, were the causes of the rapid growth of the vines and their fruit.

"Mineral, organic, soluble, assimilate, vivifying, genial, nonsense," repeated Sister Lizzy, pouting out her lower lip, and setting her stiffly-starched cap a little one side. "Now, Mr. Jones, don't undertake to out-argue me with your learned terms, picked up at that good-for-nothin' school ye went to so long, when you'd much better been at home studyin' farmin' and gardenin' with your uncle, the Squire; but you wont beat me out o' my notion that moonshiny nights aint good for growin' cucumbers and other things, for I can see 'em; and what I can see with my own eyes, old as they be, nobody needn't undertake to dispute."

"Yes," added the impatient Aunt Nabby, joining Sister Lizzy with the whole force of her voluble tongue, "and I know it, too; and its sartin' true of all livin' critters, as well as garden sarce. Havn't we, Molly," turning round, and appealing to her daughter for the truth of what she was about to assert, "hav'n't we, I say, Molly, my gal, seen the kittens of our old grey cat grow e'en a'most two times as fast these shiny nights back as they did afore the moon quartered; and don't that 'ere calf and lamb of ours, that we are bringin' up by hand, tho' they be'n't quite six months old, don't they stretch themselves to be a'most as big as some folks' yearlings? I'd like to have ye to see them, Mr. James Jones." To this he declared, catching the bright

eye of Molly, that he would stop on his way home, and do himself the pleasure that very evening. "Yes, sir, yes," continued Aunt Nabby, "and the chickens, and ducks, and turkeys, too. It warn't no longer ago than t'other day, that I says to my husband, says I, Mr. Doolittle, says I, do you mind how all them 'ere critters do grow these moonshiny nights? 'Wal, he says back, 'Mammy,' says he—for ye know, neighbors, he ollous calls me Mammy when we talk familiar like together—'may be 'tis as you say, all in the moon,' says he, 'but I kinder guess "'tis the airy bird that catches the worm;" "and it aint into a shut mouth that flies is apt to enter;" "for ye know he most ollous will have his old sayin's to begin with. 'Wal, ye know, Mammy,' says he, 'our chickens is pretty airy in the mornin', with eyes and mouths wide open, too, huntin' for breakfast; and, what is more, worms, and bugs, and grasshoppers, and pollywogs, is gettin' plenty now-a-days, and field mice, too, for the kittens; and it don't take much runnin' arter to catch 'em; and, when cotched, they fat all that eats 'em despart fast—tho' I don't mean by this nothin' agin the moon. Then the cosset calf and lamb, we musn't forget the new clover patch, on to which they were turned a fortnight ago; no, nor all the milk and meal you and Molly gives 'em. Wal, it's a poor hide, that clover, milk, and meal, does n't soon fill; and it's a miserable back and belly that they don't soon kiver with wool, that's sartin; yet, we'll let all that pass; but I know this, that the moon ollous makes me grow amazin' fast one way, and that is—everlastin' sleepy,' and so he goed right off to bed. Wal, arter all, I guess it's sartin sure Mr. Doolittle b'lieves as much in the moon as Miss Thompson here, and I does. And Sargeant, now, ye need n't look quite so cunnin' out o' the corner o' yer eyes, and kinder touch up Mr. Jones with yer forefinger; for I sees ye, yes, I do," she sharply continued, "and ye can't hide it; and I know, 'cause yer a readin' man, as Mr. Jones is, and like to laugh at what ye call old women's notions, that ye pretend to b'lieve nothin' about the vartue of moonshiny nights. Wal, ye wont convince me, nor Miss Thompson nother." To which Sister Lizzy nodded assent, "that things do grow faster in the light of the moon than when its dark."

I beg your pardon, Mrs. Doolittle, and that of my excellent friend, Miss Thompson, you quite misunderstand me; for I agree with your husband, that milk, meal, grasshoppers, &c., have something to do with the growth of things; still, I think a good deal of moonshine. If the light of the sun be necessary to produce and perfect the vegetable and animal creation, and the moon shines by its borrowed light, its rays cannot but have a favorable effect upon all growing bodies. Here young Jones was going to add, by way of offset to my partial acknowledgment of the merit of moonshine, that it was all humbug; that the light of the moon, compared with that of the sun, was hardly as one drop of water to the great ocean; but, as he is something of a wag, I gave him a wink, and he checked himself, and went off in a rigmarole of scientific terms that absolutely amazed the old ladies; and, luckily, as they did not understand one word, they took his grandiloquent harangue for a confirmation of their opinions.

"The moon," he said, "is wonderous in its satellite opacity. Who can count its ubiquitous phases? Who calculate its eccentric obfuscations during its heliacal risings? Its phenomena are unbounded. Its conjunction unexplainable with the periphery of its diurnal mundicity; especially when the gibbous apparent coincides with the cornal crescent, and becomes a quadrature upon the syzygies of the octant line, and its nodes are at the unprecedented angle of its grandest symmetrical perturbation. Then is the time of her apogee; and then commences the subtended evocation to perigee."

"Apogee and perigee! That's it," said Aunt Nabby triumphantly; "and don't I see 'em every time I look in the almanac. Wal, Mr. Jones, I didn't know ye was so wise afore. I kinder guessed you and the Sargeant would at last agree with me, and Miss Thompson, and my husband. It only takes a little explainin' to convince even the most stubbornest folks livin'."

Here my horse and carry-all were brought to the door; and, as we had taken our tea, and it was getting towards sundown, my wife interrupted Aunt Nabby, by saying we ought to be on the move home. To this she readily assented; and after bidding good evening to our kind hosts, and promising to renew our visit as soon as convenient, we, with our darling baby, left them for our own domicils.

SERGEANT TELTRUE.

VENETIAN, OR TANNERS' SUMACH.

THE Venetian sumach (*Rhus coriaria*), so much used in tanneries, is imported in large quantities from Sicily, and the south of France, and sells at \$45 to \$50 per ton. It is very distinct from all the American species in its growth and general appearance, with the exception of the *Rhus copallinum*, and it is superior to them all for manufacturing purposes.

The best mode of forming plantations would be from seeds, which may be imported from Naples, or the south of France. It is of easy culture, and propagates rather freely from suckers. It was fully tested by my father about twenty-five years ago, who imported it from Sicily, and cultivated it successfully in his grounds. He was particularly desirous of having its culture extensively established with us; it being a primeval feeling with him, that the first object of our country should be to render herself perfectly independent of foreign supplies of all articles which could be produced from our own soil. And it has always seemed impossible for him, as well as myself, to distinguish between that pusillanimity which once caused tribute to be paid to the Algerines, and the humiliating position of paying tribute for supplies from the limited domains, and pauper-sustained factories of European nations, when the same articles could be produced to any extent within the limits of our own republic.

The *Rhus coriaria*, being a native of the south of Europe, it will not flourish to the northward of New York. On the light soils of New Jersey, which are there so prevalent, it would, no doubt, do well; but it would probably produce a greater number of shoots in the lower sections of the southern states, where the climate is more congenial and mild.

WM. R. PRINCE.

Linnaean Gardens and Nurseries,
Flushing, June 28th, 1848.

Ladies' Department.

DIRECTIONS FOR GATHERING GARDEN SEEDS.

THE finest plants of each kind should be reserved, and only the largest fruits, or seed vessels, on each selected for seed. These are generally the first that are formed; for those which come to perfection while the parent plant is in full vigor, will always produce the largest seeds, and as a necessary consequence, the best seeds will produce the finest plants; while those from small, or half-ripened seeds, will be less in size, and their fruit of course, will be inferior in quality to that of the parent plant. Seeds should be gathered as soon as possible after they are ripe, and always on a dry day.

Beans and peas may be pulled up by the roots, spread for a day or two in the sun to dry, taken in at night, or otherwise protected from the dew, and then threshed out on the barn floor. When quite dry, which will be in a few days, they should be barrelled, or boxed up, for sale, after selecting the largest for the next year's planting.

The seeds of cabbages, turnips, and such kinds, should be pulled, and hung in the shade for a day or two, and then the largest pods, which are always on the lower part of the stems, should be stripped off, the seeds beaten out, and shaken in a sieve so openly woven as to retain only the largest.

The seeds of cucumbers, tomatoes, egg plants, &c., must be left till dead ripe before they are gathered; then slit open and laid in the shade, on a board, so placed aslant, that the moisture will drain off; and so left till the pulp has dried, when the seeds can be separated by rubbing between the hands.

The seeds of canteloupes and water melons can best be chosen from those of the finest flavor brought to table, and only require to be separated from the pulp and dried.

Squashes, or cymplings, require no care, and are not injured materially if left out all winter, as the skin becomes a hard shell capable of resisting cold and damp; but it is better to house them unbroken until the seeds are wanted in the spring.

Lettuce must be watched closely, or all the best seeds will be carried off by the wind, or eaten by the pretty little yellowbirds. As soon, therefore, as the tops of the plants are covered with their first coat of down, they must be pulled up early in the morning; spread on large cloths on the barn floor, or in the garret; and the next day, all that are ripe can be shaken out, and cleaned in a sieve. Those that ripen after the plants wither, will not vegetate at all, and the produce will not be worth the care bestowed upon them.

Artichokes, salsafy, or oyster plants, have also winged seeds, and are a very uncertain crop, unless closely watched. The birds, too, make a great havoc with the best, by tearing open the involucre with their bills, and devouring them before they are mature. As they continue to bloom and produce perfect seeds for a week or ten days, it will not do to pull them up; but the plan I pursue is, to go every morning, while the dew is on them, and with the clippers, cut off all the heads that have the down ready to expand; and examine all the large ones that seem nearly ready, by drawing the

involucre carefully open. If the seeds are *white*, leave them for a day or two longer; if discolored, they may be cut, and will mature in drying; spread them on papers, on the garret floor, and in two or three days, they will be fit to clean and put up. The garret should be hot, dry, and capable of being shut up to exclude the wind and rain.

Balm, sage, and most other "herbs," that have uncovered seeds, must be cut as soon as those on the lower part of the stems are black, when they will be shaken out by the wind and lost. Not many of the others will open, but it is better to lose some, than not secure the best.

Carrots, parsnips, &c., perfect only a small portion of their seeds, which can be ascertained, at a glance, being large, well-shaped, and separate readily from their slender foot stalks. These only need be gathered, as the others never vegetate.

For planting, corn take only the largest grains from the middle of the most perfect ears, rejecting those badly shaped, and the small ones near the ends of the cob.

These rules should always be followed when quality is of more consequence than quantity, and may be carried out in a large scale with the field seeds on the farm, as is done by the best practical farmer in my neighborhood. As his grain is brought to the barn, he takes each sheaf and shakes it over a large box, into which the full ripe grains fall, and are reserved for seed. E. S.

Eutawah, July, 1848.

CAUTION IN THE CHOICE OF CULINARY UTENSILS.—No. 2.

ANOTHER class of metallic vessels, employed in cooking, particularly worthy of notice, are those coated internally with a kind of enamel, prepared without the admixture of lead, or any other poisonous ingredients, and consequently no bad effects can ensue.

Vessels of the above description are now manufactured both in Europe and in this country, the invention of which is considered to be one of the greatest improvements recently introduced into domestic economy, such vessels being remarkably clean, salubrious, and adapted to the delicate culinary operations of boiling, stewing, making of jellies, preserves, &c. Not only are small saucepans and stewpans covered with this enamel, but large iron boilers, holding twenty-five gallons, as well as fryingpans and gridirons. The use of these utensils cannot be too strongly recommended. C.

FARMERS' WIVES IN OLDEN TIMES.—The duties of farmers' wives, in England, in olden times, were somewhat different, than is at present the case in this country. In the reign of Henry VIII., Sir A. Fitzherbert wrote a treatise, entitled the "A Prologue for the Wyve's Occupation," in which he says,

"It is a wyve's occupation to winnow all maner of cornes, to make malte, to washe and wrynge, to make heyne, shere corne, and in tyme of nede, to help her husbnde to fill the mucke wayne, or dounge carte, dryve the ploughe, to lode heyne, corne and such other, and to go and ryde to the market to sell butter, chese, mylke, egges, chekyns, capons, hennes, pygges, gese, and all maner of cornes."

Boys' Department.

AGRICULTURAL CHEMISTRY, No. 5.

Boys, in my last letter, I explained the manner in which plants obtain their carbon, and told you that this element was derived chiefly from the carbonic acid contained in the atmosphere. It will now be my object to show in what manner the other constituents of air and what contribute to the sustenance of vegetable life.

1. *Oxygen*.—I have already described this gas, and in treating on the absorption of carbonic acid, I explained one method by which it is obtained. It now only remains to say there is but one other source for its supply; namely, the moisture or water, which the roots of plants absorb. These two sources furnish really more oxygen than the plant requires; yet the hydrogen of the water is needed, as well as the carbon of the carbonic acid; consequently, when these two compounds (water and carbonic acid), are decomposed, there will remain a surplus of oxygen to be returned to the air. In this method the growth of vegetation tends to restore to the atmosphere a portion of the oxygen consumed by animal respiration.

2. *Hydrogen*.—The principal source of this element is undoubtedly the water which is taken up by the roots of plants. The constituents of the water (oxygen and hydrogen), being separated, each performs its proper office. The peculiar connexion which the several elements have with various parts of the vegetable structure will be explained when treating hereafter of vegetable organization. Another source of hydrogen is ammonia, though this probably furnishes but a limited supply.

3. *Nitrogen*.—Different opinions have been and still are entertained, as to the manner in which plants obtain their nitrogen, and it is a matter of no little moment to have correct views on this subject. Carbonic acid, oxygen, and hydrogen are supplied in such a manner as to be almost independent of artificial means, and it is therefore of less practical importance to determine and understand the precise mode of their operation than that of nitrogen. The analysis of plants shows that this element is always present in their organization, and the experiments of chemists have proved that they will not grow without it; yet, owing to its inert character, or to an inadequate supply, there may not always be so much furnished by nature as is needed to ensure a luxuriant growth, or abundant yield of grain. Indeed, we are indebted to this element for much of the benefit resulting from the use of some of our best fertilizing agents. The mode of supplying nitrogen by artificial means will be considered when we come to the subject of *manures*.

Among the theories that have been advanced to explain the manner by which plants obtain their nitrogen, one is, that it is derived from the uncombined nitrogen of the air. But the experiment has been made of confining a plant in a limited quantity of air, and it has been found that the nitrogen contained in this air was not diminished by the growth of the plant. Again, it seems quite improbable that an element so inert in its nature, and so difficult even to force into combination with other substan-

ces, should voluntarily forsake its connexion with the atmosphere, and form a new one in the vegetable constitution. Another opinion is, that the nitric acid found in the air during a thunder shower, and brought down with the rain, imparts its nitrogen to plants; and another that decaying vegetable matter in the soil is the principal source of nitrogen. These several opinions have been discarded by some of our best modern chemists, since the discovery of ammonia in the atmosphere, and this last agent (ammonia), they believe to be the only one for transmitting the element under consideration. Yet it seems quite probable that a portion of ammonia may be supplied as well by decaying vegetable as by the atmosphere. Still, we must regard the atmosphere as the great reservoir from which most of this compound is obtained. Ammonia, you know, is composed of hydrogen and nitrogen, and I have told you that it is very soluble in water, and is always found in rain water. It is always present as a constituent of the air, and consequently, like carbonic acid, is brought to the earth with every shower, and thus brought in immediate contact with the roots of plants. It is absorbed with the water which the roots imbibe; it is decomposed, like water and carbonic acid, and during the life of the plant is not returned to the air.

It has been ascertained by chemists that the quantity of nitrogen necessary to sustain an ordinary crop does not exceed thirty pounds to the acre, though cabbages, turnips, and some other crops carry off upwards of a hundred pounds. All plants evolve nitrogen from their leaves, and this nitrogen is undoubtedly furnished by ammonia.

Production of Ammonia.—We now come to the inquiry, by what means is the ammonia thus abstracted from the air, restored. Although there are several channels through which it may pass into the air, yet the principal one, and the only one now deserving attention, is, the putrefaction of substances containing nitrogen. As animal substances always abound in this element, their decay, or putrefaction, is always attended with the formation and emission of ammonia. When animal or vegetable substances are in a state of decay, as all the elements they contain forsake their former connexions, they must either form new ones, or remain in the earth or air uncombined. They most frequently form new connexions, and it has been discovered that when a gas is first liberated from any of its combinations, it has a stronger tendency to unite with other bodies than under any other circumstances. This *point of time*, or moment of liberation, is called the *nascent state*. Now, although nitrogen in its natural state may show little inclination to form a union with hydrogen, yet in their nascent state these two gases eagerly combine, and the result is the formation of ammonia. This gas is thus continually forming, so that the atmosphere can never become exhausted.

I have now explained (as plainly and concisely as possible), the manner in which the several essential constituents of the atmosphere are made to contribute to the growth of vegetation. My next business will be to point out the constituents of the soil, and show in what manner their influence is exerted.

J. MCKINSTRY.

Greenport, Columbia Co., N. Y.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Niagara, we are in possession of our foreign journals to the 1st of July.

MARKETS.—*Ashe*, little doing. *Cotton*, a decline of $\frac{1}{4}$ d. per lb. *Flour & Grain*, dull and falling. *Provisions*, the same. Owing to the late terrible insurrection in Paris, and the continued continental difficulties, business generally is seriously affected abroad.

Money still continues abundant, more for want of knowing how to safely use it, than from any other cause.

The Weather was fine and crops promising.

Abolition of Cotton Manufactures in Egypt.—Ibrahim Pascha appears to have the intention of gradually abolishing the manufacture of cotton cloths in Egypt, and has recently discharged from his service the chief superintendent of his cotton mills. This is generally considered a very wise step on his part, as manufactures can always be imported from England and the United States at a cheaper rate than they can be made in that country.

The Aberdeen Bee-hive Strawberry Condemned.—Professor Leadley, the editor of the London Gardeners' Chronicle, in speaking of this hitherto famous variety of strawberry, describes it as very much like the "Grove-end scarlet," if it is not the same. He says that it is a poor thing, and wholly undeserving the character of either a novelty or any improvement.

How to Kill Cockroaches.—White arsenic (rat-bane), spread on cucumber rinds, if eaten by cockroaches, it is said will kill them.

Proposed Remedy for the Hove in Cattle.—At a late weekly council of the English Royal Agricultural Society, Mr. Eaton, of Haverford West, recommended a drink of one quart of new milk, fresh from the cow, as an effectual preventive of the hove in cattle, provided it be administered while the animal is able to walk about.

Mr. Fortune has resigned the curatorship of the Botanic Garden, at Chelsea, England, having been engaged by the East-India Company to proceed to China, for the purpose of procuring tea plants and seeds for their tea plantations in the Himalayas. Mr. Thomas Moore has been appointed curator in his stead.

Seeds from California.—Mr. Hartweg has lately returned to England, with a collection of seeds for the Horticultural Society, after an absence of more than two years, most of which time was spent in California.

Speckled Dorking Fowls.—A correspondent of the London Gardeners' Chronicle, says: "Having myself kept the pure speckled Dorking now for nearly twenty years, without ever experiencing, in a single instance, their liability (as complained of by a correspondent in your last), to pine away and die just when attaining maturity, it seems only just to the merit of this breed of birds to state that such-and-such-like maladies do not appear to be necessarily connected with the Dorking fowl. Having been careful to introduce a fresh and well-selected cock bird or two into the walk every second or third year at furthest, I have found the race uniformly hardy, healthy, and prolific."

Devonshire Butter.—Scald your cream, in a zinc pan, over a charcoal fire; but do not let it boil. When the cream is cold, say the next morning, take it off with the hand. Put the cream into a wide wooden bowl; stir it with the hand for ten or fifteen minutes; and the butter will be the same as out of a churn, and to be dealt with the same. A cow that will make one pound of butter per day, that is seven pounds per week, if the cream is scalded, it will make nine pounds in the seven days. Great care must be taken not to let any dust rest upon the cream.—*Gardeners' Chronicle.*

Butter Making.—Lord Clarendon recommends the following mode of making butter:—Put as much milk as cream in the churn. This, he says, improves the color of the butter. Put as much hot water around the churn as will raise the temperature of the whole to 62° or 63°F. This will always insure the butter to come from 20 to 30 minutes, which will be of better quality than if it were longer or shorter in churning.

Prolific Duck.—Mr. James Howard, farmer of Solon, has a duck that lately sat upon twenty-one eggs, from which she brought out twenty ducklings, eighteen of which are now living. Seven days after she had hatched, she commenced laying again. She is a half-bred, between the wild duck and the tame.

Importations of Cider into England.—Large importations of cider are at present taking place from the channel island of Jersey, into this country, at some of the ports on the coast, as well as the metropolis. Some arrivals of this esteemed summer beverage have also taken place from the United States.

Twin Colts.—A farmer, residing at Kingston, has a mare with two colts. They were foaled on the 19th of May last, and are quite well, and give promise of becoming strong, healthy horses.—*Kentish Observer.*

Selling Live Stock by Weight.—In the sale of fat stock, living weight seems the proper way of obtaining a fair transaction; this was the opinion of Lord Kames, which is still of great weight. He gives the following division of the ox and sheep:—

Ox.—The four quarters.... $\frac{1}{4}$ of living weight.

The skin.....1-18th do.

Tallow.....1-12th do.

These make $\frac{23}{32}$ ths of the whole. The head, feet, tripe, and blood, give the remaining third.

Sheep.—The four quarters.... $\frac{1}{4}$ of living weight.

The skin.....1-11th do.

Tallow.....1-10th do.

Offals, less than..... $\frac{1}{4}$ do.

Without entering into minute calculations, a knowledge of the living weight would render the transaction fairer for both parties, as, at present, the butcher offers according to what his experience leads him to suppose is the weight.—*Gardeners' Chronicle.*

Monstrous Potato Stalk.—A correspondent of the Dumfries Courier, says: "There is at present growing within a house at Dalswinton village, a single potato, the shaw, or stalk of which already measures seven feet two inches in length." He calls this monstrous murphy a "rara avis!"

Importation of Cheese into Great Britain, in 1847.

—The aggregate quantities of cheese imported into the United Kingdom, in 1847 (ending 6th of January, 1848), amounted to 354,803 cwt., including 109,322 cwt. from the United States of America, and 413 cwt. from British possessions abroad. The quantity of foreign European cheese exported from the United Kingdom, in 1847, amounted to 4,834 cwt.

Rearing Canary Birds in a State of Freedom.—A gentleman, in England, is mentioned in the "Times" as having succeeded in rearing Canaries in a state of freedom. These birds built their nests in his garden—one of them in a cyprus tree, having three young ones, the hen having been reared in the open air in July, 1846, since which time she has been generally free to fly about at pleasure. Another nest was built in a magnolia, by a hen, free from the time of her birth (in May, 1846), which contained two young birds, hatched on the 15th of April last. The old birds and the young ones, also (with the exception of one that disappeared), continue their flight about the grounds, coming in to feed. Each hen has now a second brood; one consisting of four, and the other of three young birds, which were expected to take flight in a few days.

Editor's Table.

SOCIAL MEETING OF FARMERS AND GARDENERS.—At the earnest solicitation of our friends, we have concluded to devote suitable rooms at our office, 189 Water street, on the first and third Wednesday of each month, from 12 to 2 o'clock, P. M., to the use of farmers, gardeners, and any others, disposed to come and have a social, informal chat, on the subjects of agriculture and horticulture.

These meetings are to be entirely free from charge of any kind whatever, to those who may please to attend them. There will be no formal speaking, but every person present will be left to pass his time as is most agreeable to him, either in listening to what may be going on, or in conversing with any one to whom it may be agreeable for him to address himself.

All those who may have anything particularly curious, rare, or useful, in the way of plants, flowers, fruits, seeds, vegetables, farm or garden implements, fertilizers, &c., are requested to bring, or send specimens for exhibition; and all those who may have new information to give, on the subject of agriculture or horticulture, are requested to attend and make such information known.

A regular report of the proceedings will be published once a month, in this and other journals.

The first meeting will take place on Wednesday, the 2d of August. The second meeting on Wednesday, the 16th of this month, to which we cordially invite all our friends to come, without ceremony, and bring whatever they may have for exhibition, as specified above.

ANNUAL SHOW OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.—We trust our friends will bear in mind that this great Show takes place at Buffalo on the 5th, 6th, and 7th of September. It will, doubtless, be the largest and best exhibition of farm and garden products, improved stock of all kinds, and agricultural implements, that has yet been made in the United States; and it will be found well worthy the attention of all interested in the noble cause of agriculture. There will be a Great Fair attending the show. A large number of the finest animals will be for sale, as well as the products of the dairy, implements, &c. Those who wish to supply themselves with anything of the kind, will do well to attend and make purchases. See advertisement in this number of the *Agriculturist*.

PREMIUM TOBACCO.—A premium of \$50 for the best hoghead of shipping leaf tobacco, was raised by, and awarded to, Mr. V. B. Carney, of St. Louis county, and bought at \$5.50 by Mr. Grantham. The second best hoghead of shipping leaf tobacco was raised by Mr. J. Anderson, of Montgomery county, and received a premium of \$25. It was bought by A. Meier & Co., of this city, at \$4.35.

Mr. Williamson Shaw, of Pike county, raised the third best hoghead of manufacturing leaf, which sold at \$10.80 per 100 pounds.—*St. Louis Union*.

AN EGG-SAMPLE.—An egg, measuring nine inches in longitudinal circumference, and weighing 5½ ounces, has been shown to the editors of the *New Haven Journal*. An egg-sample for hens in general.

TWO CROPS OF APPLES THE SAME YEAR.—We received yesterday, from Mr. J. L. Kintner, of Harrison county, Ia., a sample of delicious early apple. He gives it no name, says that it originated in Harrison county, grew on trees from four to seven feet high, and that the trees bear a second crop in the fall, of which he says he will also send us a sample. The apple is of good size, fine form, of exceeding beauty, and very delicious. The color of most of the apples sent us, is all over a bright cherry-red, but some are

green, with a broad red cheek. We regard it as eminently worthy of cultivation, and request Mr. Kintner to forward us a quantity of grafts next winter, that we may propagate some of the trees for the nursery market.—*Louisville Journal*.

THE AMERICAN QUARTERLY REGISTER AND MAGAZINE; conducted by James Stryker, Philadelphia: E. C. and J. Biddle, pp. 304, 8vo. The primary design of this work is to embody, quarterly, a comprehensive record of all the events and facts that belong to the history, the improvements, and the progress of the times in which we live; and thus, at the end of each year, to form a full and accurate book of annals, with documentary proofs and a valuable collection of statistical tables and statements. The number before us, fully corresponds with the above-named design. We should say that the work will resemble in its character the *London Annual Register* and *Littell's Living Age*. C. M. Saxton, agent 205 Broadway, N. Y. Price \$5 per annum.

NEW JERSEY WATER-CURE ESTABLISHMENT.—Those of our friends who are disposed to avail themselves of the benefits of "Hydrotherapy," or water-cure treatment, we would recommend to the establishment of Dr. Meeker, at South Orange, in the Orange Mountains, New Jersey, situated only fifteen miles from New York, on the line of the Morris and Essex Railroad.

TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY.—The Transactions of the N. Y. State Agricultural Society, with an abstract of the Proceedings of the County Agricultural Societies, for the year 1847, have been received, and will be further noticed hereafter.

RECENT PUBLICATIONS.—Through the politeness of Messrs. Stanford & Swords, 139 Broadway, we have received the following publications:—*Hawkestone*; a Tale of and for England, 2 vols., 12mo.; *Mark Wilton*, the Merchant's Clerk, by Charles B. Taylor, 12mo.; *The Vast Army*, an Allegory, by Rev. Edward Monroe, 18mo.; and *Always Happy*! or *Anecdotes of Felix and his Sister Serena*, written for her children, by A. Mother, 18mo. These works are handsomely got up, some of them illustrated, and all adapted for family reading.

A CAUTION TO DRINKING YOUNG MEN.—An old lady resident of a neighboring place, kept a large family of turkeys, perhaps sixty. She, like a great many other people thought a great deal of her turkeys, consequently valued them very highly. Opposite her door was a "West-India goods store." The man one day emptied his cask of cherries, intending to replace them with new. This old lady being economical, thought it a great pity to have all these cherries wasted, and in order to have them saved, she would just drive over her turkeys and let them eat them. In the course of the day the old lady thought she would look after them and see if they were in no mischief. She approached the yard, and lo, in one corner, lay her turkeys in one huge pile, dead. "Yes, they were stone dead." What was to be done? Surely the old matron could not lose the feathers? She must pick them! She called her daughter and picked them, intending to have them buried in the morning. Morning came, and behold there were the turkeys stalking about the yard, featherless enough (as may be supposed), crying out "quit, quit;" feeling no doubt mortified that their drunken fit had been the means of losing their coats. Poor things, if they had said "quit" before they began, they would not have been in this bad "fix." We would advise all young men who are in the habit of drinking, to leave off before they get picked; and to those who do not, let every young lady say "quit."—*Alabama Planter*.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JULY 17, 1848.

ASHES, Pots,.....per 100 lbs.	\$4 94	to	\$5 00
Pearls,.....do.	5 87	"	6 00
BALE ROPE,.....lb.	6	"	8
BARK, Quercitron,.....ton.	30 00	"	31 00
BEANS, White,.....bush.	75	"	1 38
BEEFWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12½
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	11	"	13
Sperma,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....9000 lbs.	4 50	"	5 60
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	44	"	9
COTTON BAGGING, Amer. hemp,.....yard.	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, Northern,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	5 00	"	5 63
Fancy,.....do.	6 00	"	6 50
Richmond City Mills,.....do.	6 25	"	6 38
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 50	"	3 75
GRAIN—Wheat, Western,.....bush.	1 12	"	1 26
Southern,.....do.	1 05	"	1 25
Rye,.....do.	89	"	70
Corn, Northern,.....do.	50	"	54
Southern,.....do.	50	"	53
Barley,.....do.	80	"	65
Oats, Northern,.....do.	45	"	48
GUANO, Peruvian, none in market, 2,000 lbs.	50 00	"	50 00
Pangoulan,.....do.	36 00	"	40 00
HAY, in bales,.....do.	40	"	45
HEMP, Russian, clean,.....ton.	225 00	"	230 00
American, water-rotted,.....do.	180 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	8	"	6
HOPS,.....lb.	4	"	6
HORNS,.....do.	100	"	10 00
LEAD, pig,.....do.	3 95	"	4 00
Pipes for Pumps, &c.....lb.	5	"	6
MEAL, Corn,.....bbl.	2 25	"	2 62
Corn,.....hhd.	12 50	"	13 00
MOLASSES, New Orleans,.....gal.	20	"	24
MUSTARD, American,.....lb.	18	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	75	"	1 00
Rosin,.....do.	65	"	75
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	28	"	35
OIL Linseed, American,.....do.	62	"	68
Castor,.....do.	1 50	"	1 70
Lard,.....do.	65	"	60
OIL CAKE,.....100 lbs.	1 00	"	1 15
PEAS, Field,.....bush.	1 00	"	1 62
Black eyed, 2 do.....do.	9 00	"	—
PLASTER OF PARIS,.....ton.	3 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Meat,.....bbl.	9 00	"	13 00
Prime,.....do.	5 25	"	7 50
Smoked,.....lb.	6	"	10
Rounds, in pickle,.....do.	4	"	6
Pork, Meat,.....bbl.	9 75	"	12 00
Prime,.....do.	6 50	"	9 00
Lard,.....do.	6	"	8
Bacon sides, Smoked,.....do.	8	"	4½
In pickle,.....do.	2	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	8	"	4
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack.	1 25	"	1 42
Common,.....bush.	20	"	25
SEEDS—Clover,.....lb.	5	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 35	"	1 40
rough,.....do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,.....lb.	1	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	3½	"	5
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7	"	7½
TOBACCO,.....do.	24	"	7
WHISKEY, American,.....gal.	25	"	24
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	30	"	35
Half blood,.....do.	20	"	25
Common do.....do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 15 cents per lb.; Veal, 6 to 13 cents; Lamb, 7 to 10 cents; Mutton, 6 to 9 cents; Pork and Sausages, 8 to 10 cents; Ham and Bacon, 5 to 11 cents; young Pigs, \$1 to \$1.50 each.

Fish, &c.—Salmon, from 20 to 25 cents per lb.; Sea Bass, 5 to 6 cents; Halibut, 4 to 6 cents; Cod, 4 to 5 cents; Weak Fish, 4 to 5 cents; Blue Fish, 3 to 4 cents; Black Fish, 5 to 8 cents; Pogonia, 3 cents; Eels, 6 to 8 cents; Green Turtle, 10 to 12 cents; Lobsters, 5 to 6 cents; Spanish Mackerel, 25 cents each; Crabs, 12 to 18 cents per dozen; Oysters, 50 cents to \$1.25 per 100; Clams, 18 to 50 cents.

Poultry and Eggs.—Turkeys, from \$1 to \$1.50 each; Geese, 62 cents to \$1 each; Ducks, 50 to 87 cents per pair; Chickens, 25 to 75 cents per pair; Pigeons, \$1.25 per dozen; Eggs, 10 to 12 cents per dozen.

Dairy Products.—Butter, from 14 to 25 cents per lb.; Cheese, 6 to 9 cents; Cheese Cakes, 9 for 12½ cents; Milk, 3 to 5 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Bough Apples, from \$2 to \$3 per bbl.; Strawberry Apples, \$3 to \$3.50; Apples in small quantities, 12 to 18 cents per half peck; Pears, 75 cents to \$1.25 per bushel, or 12 to 16 cents per half peck; Peaches, 25 cents to \$1 per basket; Peaches in small quantities, selected, 25 to 50 cents per half peck; Apricots, 25 cents to \$6 per 100; Green Grapes, 75 cents per bushel, or 10 cents per half peck; Gooseberries, 10 to 12 cents per quart; Currants, \$1 to \$1.50 per bushel, or 6 cents per quart; Raspberries, 6 to 8 cents per half pint; Blackberries and Whortleberries, 7 to 9 cents per quart; Oranges, 25 to 50 cents per dozen; Lemons, 18 to 25 cents; Bananas, 25 to 75 cents; Pine Apples, 6 to 18 cents each; Chestnuts, \$3 per bushel; Hickory Nuts \$2 per bushel; Peanuts, \$1.35 to \$1.38 per bushel; Cocoa Nuts, 3 to 6 cents each; Pecan Nuts, 7 cents per lb.; Soft-Shell Almonds, 12 to 14 cents; Filberts, Hard-Shell Almonds and Madeira Nuts, 8 cents.

Vegetables.—Pinkneys and Mercer Potatoes (new), from 50 to 62 cents per bushel, or 10 to 12 cents per half peck; Onions, 75 cents to \$1.25 per bushel, or 50 to 75 cents per dozen bunches; Cucumbers, 60 cents per 100, or 10 cents per dozen; Tomatoes, 10 to 12 cents per quart; Pumpkins (southern), 25 to 37 cents each; Summer Squashes, 3 to 4 cents each; Watermelons, 25 to 50 cents each; Egg Plants, 18 to 25 cents each; Green Corn, 8 to 10 ears for 12 cents; Green Peas (in pods), 12 to 15 cents per half peck; String Beans, 12 to 15 cents; Turnips, 37 to 62 cents per bushel, or from 9 to 5 cents for 7; Beets and Carrots, 37 to 62 cents per dozen; Cauliflowers, 12 to 25 cents per head; Cabbages, 1 to 6 cents per head; Radishes, 10 to 13 cents per dozen bunches.

REMARKS.—The only thing worthy of note, since our last, is the fall in flour, which is nearly one dollar less per barrel than last month. Wheat has gone through a corresponding depression, but other grain remains nearly as before. Provisions also have slightly fallen.

The Weather has been very rainy the past four weeks, causing some injury to hay and grain while harvesting. It changed, however, on the 14th of July, to dry, and since that period, has been very fine. We continue to hear a good account of all the incoming crops.

TO CORRESPONDENTS.—Communications have been received from Wm. R. Prince, E. B. Sergeant Teitree, Alexander Walsh, Solon Robinson, J. R. S., and Reviewer.

ACKNOWLEDGMENTS.—The Water-Cure Journal and Herald of Reforms, from Messrs. Fowler and Wells; Fourth Annual Report of the City Missionary, on Behalf of the Destitute Colored Population; The Albany Argus, containing an Account of the Exhibition of the Albany and Rensselaer Horticultural Society, held at Troy on the 12th of July; Manuel del Vengero, by Don Jose Maria Dau, of Havana; also, Elementos de Cronologia Universal y particular de Espanna, Isla de Cuba y Puerto Rico, by Don Jose Maria de la Torre, Abogado, etc., of Havana.

SEED WHEAT AND RYE.

THE celebrated White Flint and other superior varieties of Seed Wheat, Spring as well as Winter varieties.

Also, Rye of an excellent quality for winter sowing.

A. B. ALLEN & Co., 189 and 191 Water st. N. Y.

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FOR Sale at Bating Hollow, Long Island, by
Jy3 AZEL DOWNS.

LIGHTNING RODS,

FORMED OF copper, or covered iron, with minute directions for putting them up. Prices from 50 to 75 cents per running yard. A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

STRAWBERRY PLANTS.

WM. R. PRINCE & CO., Sole Proprietors of the Linnæan Gardens and Nurseries, Flushing, N. Y., will transmit their *New Strawberry Catalogue*, comprising every estimable variety, with descriptions, culture, and prices, just published, to every post-paid applicant.

The prices per 1,000 plants are greatly reduced. Strangers will enclose cash with their orders.

The following is from a part of the list only:—

<i>Scarlet and Pine Strawberries.</i>		per doz.	per 100
Abyssinian Prince, P.....	\$2.00	\$8.00	
Aberdeen Beehive, H.....	2.00	8.00	
American Scarlet, P.....	50	2.00	
" " Prolific, H.....	50	2.00	
Bishop's Globe, P.....	50	2.00	
" " Seedling true, P.....	50	2.00	

Bishop's Orange, True.

Black Prince, P.....	50	2.00
Boston Pine H.....	50	2.00
Brilliant, H.....	2.00	8.00
Barre Seedling, H.....	37	2.00
" " Columba, P.....	69	4.00
" " Late Prolific, P.....	1.25	8.00
" " Minnesota, H.....	1.00	6.00
" " New Pine, P.....	1.25	8.00
" " Prolific, P.....	1.00	6.00
" " Elmer Hudson, P.....	60	4.00
" " Scarlet Morning, P.....	1.25	6.00
" " Solano, P.....	1.25	8.00
" " Charlotte, P.....	3.00	10.00
" " Chitt, H.....	3.00	10.00
" " Cluster Hudson, P.....	1.00	5.00
" " Concordia, P.....	2.00	10.00
" " Crisp on Pine, P.....	75	3.00
" " Pine, H & P.....	1.00	6.00
" " Cushing, H.....	50	2.00
" " Eboria, H.....	1.50	6.00
" " Estatin, P.....	2.00	10.00
" " Globe Swainstone, H.....	2.00	10.00
" " Hovey's Seedling, P.....	37	1.50
" " Hudson, H & P.....	25	1.50
" " Illinois, P.....	50	2.00
" " Jonney's Seedling, P.....	50	2.00
" " Lady's Finger, H.....	2.00	10.00
" " Large Early Scarlet, H.....	25	1.00
" " Le Baron, H.....	2.00	8.00
" " Lizzie Randolph, P.....	2.00	10.00
" " Magenta, P.....	2.00	10.00
" " Magnifique, P.....	3.00	15.00
" " Melrose, or Victoria, P.....	25	1.50
" " Munstros Swainstone, H.....	2.00	10.00
" " Primrose, H.....	3.00	10.00
" " Primrose, P.....	2.00	10.00
" " Pr. Rose Scarlet, P.....	3.00	10.00
" " Prolific Hudson, P.....	1.00	5.00
" " Prolific Swainstone, H.....	2.00	8.00
" " Prolific, P.....	2.50	8.00
" " Round White Carolina, H.....	2.00	8.00
" " Serena, H.....	2.50	10.00
" " Theresa, H.....	2.00	8.00
" " Tivoli Scarlet, P.....	2.50	10.00
" " Unique Scarlet, H.....	1.00	5.00

Prairie Strawberries.

* Camak's Scarlet, H.....	50	2.00
Iowa, H.....	50	2.00
Prairie Cluster, P.....	50	2.00

Pistillate Keen, of Ohio.

Taylor Seedling, P.....	50	2.00
Unique Prairie, P.....	50	2.00
Necked Pine, of Ohio.....	50	2.00
Wiley, P.....	50	2.00

Hautbois Strawberries.

* Green, H.....	50	2.50
Large Flat Hautbois, H.....	50	2.50
Prolific Hautbois, H.....	37	1.50

Alpine and Wood Strawberries.

* Benjamin Alpine, H.....	75	3.00
Red Wood (English), H.....	25	1.00
White Wood (English), H.....	25	1.00
Red Alpine with runners, H.....	25	1.00
White Alpine, " H.....	50	2.00
Red Bush Alpine, no runners, H.....	50	2.00
White " H.....	50	2.00

Monteideo Pine.

- * 13 Splendid varieties, each..... 5.00

NOTE.—H, denotes the Hermaphrodite, and P, the Pistillate varieties. The varieties designated by (*), are not in possession of any other nursery in this town or elsewhere. agit.

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MANUFACTURE all kinds of Blank-Books and Stationery articles—Diamond-Point Gold Pens—Letter Copying-Presses—Manifold Letter Writers—superior Crown-Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

We have also on hand every description of Foreign PAPER and STATIONERY—Cap, Letter, and Note Paper, Envelopes, Perforated Board, Bristol Board, Drawing-Papers—Copy-Books, Pocket Books, Card-Books, Port-Folios, Scrap-Books—Gold-Paper, Tissue-Paper—Chess-Men, Backgammon-Boards—Vases, Water, Slates, Pencils—Gold and Silver Pencil-Cases—Writing-Desks—Work Boxes—Quills—Tin Cash and Deed Boxes—and all articles kept by Stationers, at remarkably low prices.

Books suitable for County Clerks and Public Officers supplied.

Printing, Ruling, and Binding executed at the lowest rates.

We should be pleased to have a call from those requiring articles in our line. Orders by mail will receive attention.

LEWIS FRANCIS, } FRANCIS & LOUREL,
CYRUS H. LOUREL, } Stationers, 77 Maiden Lane, N. Y.
Sept 1st

LEAD PIPES FOR HYDRANTS, PUMPS, &c.

Of 1/2 inch calibre, weighing from 1 lb. 8 oz. to 3 lbs. 8 oz. per yd.			
1/2 "	"	1 " 14 "	6 do 6 "
3/4 "	"	2 " 8 "	8 do 4 "
1 "	"	3 " 8 "	10 do 8 "
1 1/4 "	"	5 " 10 "	14 do "
1 1/2 "	"	6 " 12 "	17 do 8 "
1 3/4 "	"	11 " "	19 do "
2 "	"	16 " 12 "	27 do "
2 1/2 "	"	23 " 8 "	50 do "
3 "	"	28 " "	59 do "
3 1/2 "	"	45 " "	80 do "
4 "	"	49 " "	90 do "
4 1/2 "	"	Water Pipe	15 do 14 "
5 "	"	"	17 do 4 "
5 1/2 "	"	"	34 do "

Price of the above pipes from 5 to 6 cents per lb. Tinned pipe, 1/2 cent per lb. extra.

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WATER RAMS.

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SCHOOL OF APPLIED CHEMISTRY,
Attached to the "Department of Philosophy and the Arts,"
in Yale College.

B. SILLIMAN, JR.,

Professor of Chemistry and the Kindred Sciences Applied to the Arts.

J. P. NORTON,

Professor of Agricultural Chemistry.

THE Instructors in this Department have opened a commodious Laboratory on the college grounds, where they are now prepared to receive pupils in Special and General Chemistry. The system pursued with those who design to become chemists, or to study the science extensively, is thorough and complete. Such students always commence with an extended course of qualitative examination of unknown substances—and in due time pass through a series of varied quantitative determinations. To those who wish to follow special investigations connected either with the arts, agriculture, or pure science, every facility will be afforded, both in organic and inorganic analysis.

Prof. B. SILLIMAN, JR. will instruct particularly in general Elementary and Analytical Chemistry, Mineralogy, and Metallurgy, with special reference to their application to the useful arts. He will also give a course of Lectures on Mineralogy and Metallurgy, continued through the summer term. During the fall and earlier part of the winter, he will also carry a class through a course of Elementary Chemistry, in elucidation of the regular course on this subject in the academical department.

The instruction in the professorship of Agricultural Chemistry is intended to unite, as much as possible, practical views with theory; to give the untutored farmer an opportunity to become acquainted with so much of science as shall enable him to reason upon his daily pursuits, and to understand the great principles upon which good cultivation must depend, presented in so plain a form, as to be within the comprehension of all. Few chemical terms will be employed in the lectures, and those only of the simple explanations; they will thus be understood by those who have never devoted any attention to the subject. A regular course of lectures will be delivered in the winter of each year, commencing in January and continuing about two months, there being four lectures in each week. The subjects of the course will be—the composition and nature of the soil, the plant, and the animal—theories of rotation of crops, and of feeding—modes of draining—the different kinds of manures, their value and how beneficial—the improvement of waste lands, &c., &c. Text books will be indicated for study during leisure hours.

In connection with the lectures will be a short course of Elementary Chemistry, for such as wish to study somewhat more of chemistry than is given in the course, and to qualify themselves for making ordinary testings and qualitative examinations of soils, manures, &c.; this course will occupy two hours of five days in each week during two months.

The fee for the lectures on Agricultural Chemistry will be \$10. That for the elementary chemical course, including apparatus and reagents, will be \$25.

Students in Analytical Chemistry are allowed to work in the laboratory during the whole day; glass will be furnished (with charges for breakage), also the ordinary reagents and balances for the use of those who are so far advanced as to require them. There will be frequent recitations, and the students will receive the constant attention of one or both of the professors. The fee for this class will be \$20 per month.

The vacations will correspond with those in the academical departments, viz.: six weeks from the third Wednesday of August; two weeks from the first Wednesday in January; and four weeks from the third Wednesday in April of each year. Sessions begin with the close of each vacation, and are at length respectively, 14—14, and 12 weeks.

Students in this school will enjoy all the advantages to be derived from the extended means of the institution in libraries, instruments and collections. The mineralogical and geological collection is widely known as one of the best in the country, and there are smaller collections in the possession of the professors. Those who desire it, can have access to the Lectures on Chemistry, Mineralogy, and Geology, by Prof. B. SILLIMAN, Sen., and to the lectures on Natural Philosophy, by Prof. D. OLIVER.

Instruction is also accessible in the higher Mathematics, in Engineering and the use of Instruments, in Philology, History, Oriental Languages, and Belles-Lettres.

The department of Philosophy and the Arts, in Yale College, of which the school of Applied Chemistry is a part, has been organized with a view to meet the wants of those who desire to follow the studies embraced under it further than they are pursued in a collegiate course. Those who desire further information on the subject are referred to the annual catalogue of the institution for 1847-48.

A college education is not required, however, of those who become students under this department. The professors are always accessible to those who wish to consult them on matters relating to their several departments; and will undertake such analyses and investigations as may be entrusted to them. Letters of inquiry will be promptly attended to. Analytical Laboratory, Yale College, New Haven, July, 1848.

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Flushing, N. Y., Aug. 1st, 1848.

2d aug.

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A prospectus has been issued (which can be had at the office of the Company, or any of its agents), explanatory of the terms and conditions of insurance.

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C. M. SAXTON, 205 Broadway, receives subscriptions for the following periodicals at the prices annexed, viz:—

The New England Genealogical and Historical Register	Quarterly, per annum	\$2
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CHALLENGE.

I WILL show my Durham Bull, Marius, at the State Fair to be held at Buffalo, on the 5th, 6th, and 7th of September, against any Durham bull that has been previously awarded the first premium by the N. Y. State Agricultural Society, for \$50 to \$100 a side. The judges to be named on the ground and not less than three in number. Any gentleman wishing to become a competitor, will please to state the same in writing, on or before the 20th of August.

This celebrated bull, which was imported from the stock of the late Earl Spencer, and now five years old, will be offered for sale under the direction of the officers of the N. Y. Agricultural Society at their next Fair. The character of this bull is too well known to require any comment.

THOS. BELL.

Morrisania, West Chester Co., N. Y., July 17th, 1848. It

SALE OF SHORT-HORNED CATTLE AND MERINO SHEEP.

I WILL sell at Buffalo, during the days of the State Fair, 5th, 6th, and 7th of September next, under the directions of the Officers of the N. Y. State Agricultural Society, twenty to twenty-five thorough-bred Short-Horned cattle, consisting of cows, heifers, and young bulls. A catalogue with their pedigrees will be ready at the time of the Fair.

Also, I will sell at the same time, fifty Merino rams, bred from the Berkshire flock.

References, A. B. Allen, N. Y.; Sanford Howard, and B. P. Johnson, Albany; Francis Rotch, Butternut; and L. F. Allen, Black Rock.

J. M. SHERWOOD.

Auburn, May 16th, 1848.

3t

SHORT-HORN AND DEVON CATTLE, COTSWOLD AND SOUTHDOWN SHEEP.

I WILL sell at the New York State Cattle Show, to be held on the 5th, 6th, and 7th of September next, at Buffalo, about 30 thorough-bred Short-Horn cattle, consisting of cows, heifers, bulls, and calves.

Also, 20 to 25 thorough-bred Devons, of like description.

Likewise, 30 Cotswold sheep, ewes and rams of select, recently-imported stock, and about the same number of South-downs.

The above stock I have been breeding for many years past, and its reputation in all their varieties is generally known.

Catalogues, with pedigrees of the stock, will be furnished at the show grounds where the cattle will be exhibited.

LEWIS F. ALLEN.

Black Rock, N. Y., July, 1848.

3t

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THE
AMERICAN AGRICULTURIST

AND

FARMERS' CABINET

IS PUBLISHED THE FIRST OF EVERY MONTH

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Eight Copies	5 "

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII. NEW YORK, SEPTEMBER, 1848. NO. IX.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

POTASH NECESSARY AS AN INGREDIENT IN THE FOOD OF PLANTS.

RECENT analyses, made by the most eminent chemists, and conducted with the greatest care, show that particular plants and trees invariably contain, among other mineral ingredients, potash, which exists nearly in determinate proportions as regards the bulk of the crop, irrespective of the manures employed, whether organic or inorganic, on poor soils or those which are rich, manured or unmanured. Hence, all soils, which do not naturally abound in potash, such as clays, friable loams, formed by the decomposition of potash felspars, &c., or those containing a considerable amount of vegetable remains, will require a constant supply of this material, in order to grow even an average yield of many of our crops. Thus, all sandy, or siliceous soils, as well as turfy, chalky, or calcareous ones, to which have been applied lime, plaster, phosphate of lime, guano, bone dust, or other ammoniacal compounds, producing azotized matter, all of which, in time, cease to have the desired effect, will, in a few years become exhausted of their potash, and the farmer will most probably exclaim, "My land is sick and worn out. I can't raise half a crop."

The question now arises—How can potash economically be obtained? Answer. From potash marls, when within reasonable distance of the farm; wood ashes (unleached), or ashes obtained by burning weeds; turf and peat ashes; leaf mould, or the leaves of trees and plants, applied to the soil unprepared; the refuse of salt works (bitterns); and the cheaper kinds of potash of commerce. In regard to the quantity of these materials, it will depend upon the nature and condition of the land to which they are to be applied, as well as upon the particular kind of crop intended to be grown. As

a knowledge of this would require more space than can be devoted to a single article, the reader is directed to our past and future columns.

SOCIAL MEETING OF FARMERS AND GARDENERS.

AGREEABLY to the announcement in our last number, a meeting was held at our rooms, 189 Water street, from the proceedings of which we extract the following:—

New-Jersey Green-Sand Marl.—A sample of green-sand marl was received from a pit on the farm of Mr. John H. Smock, of Marlborough, N. J., which, according to the analysis of Professor Rogers, contained, in 100 parts, the following ingredients:—

Silica,	51.0
Protoxide of iron,	25.1
Alumina,	7.5
Potash,	9.3
Lime,	trace.
Water,	6.5
	<hr/> 99.4

The chief value of this marl, when applied to light, sandy soils, it was stated, consists of the potash and oxide of iron it contains. As compared with common unleached wood ashes, it is thought to be equal in value, measure for measure. Visible effects are still to be seen on Mr. Smock's farm, from the marl which was applied thirty years ago. When used as a compost, at the rate of 30 to 40 bushels of lime to 300 or 400 bushels of marl to the acre, its action is more prompt, and consequently larger crops are obtained; but its fertilizing effects, when thus applied, are thought not to be felt beyond fifteen years.

A sample taken from the top of a similar bed of marl, was also presented from the farm of Dr. John S. Bartlett, situated about five miles from the former, which, on analysis by Dr. Chilton, gave the following ingredients :—

Silica,	71.14
Oxide of iron,	10.73
Alumina,	5.00
Potash,	3.40
Sulphate of iron, &c.,	2.82
Water,	5.81
Loss,	1.10

100.00

This marl, though less rich in potash than the preceding, like all other beds which have been opened in East Jersey, it is believed will prove more valuable as it is more deeply penetrated.

Syrian Millet.—Mr. S. B. Parsons, of Flushing, Long Island, presented a sample of his own raising of Syrian millet (*Sorghum halepense*), seven feet in height. The plant has been successfully cultivated for a few years past, in Carolina and Georgia, from seeds originally obtained from the banks of the Nile. The tops and stalks are very succulent, quite as much so as those of green Indian corn, when young, and promise to afford a valuable forage for cattle and other stock, from the poorest soil, at the north as well as at the south, without much expense for culture or manure.

Superior Variety of Squash.—A fine specimen of squash was received from Mr. Braisted, of Woodbridge, N. J., grown by him from seed procured from St. Domingo. In addition to fineness of texture and delicacy of flavor, this vegetable possesses the property of keeping during the winter and spring, and even, it is said, that, with proper care, it will last the year round.

Mildew on the Grape Vine.—Mr. Maynard, of Brooklyn, L. I., stated that the Isabella and Catawba grape vines have been attacked by mildew these two years past, which he attributes to cold, damp weather, followed by an intensely-hot sun. The leaves curl up, and turn brown; the fruit ceases to grow, and often withers, rots, and falls off. The Catawba, in this vicinity, is more susceptible to this malady than the Isabella; but at Cincinnati, according to Mr. Longworth, the reverse is the case. Mr. Maynard thinks there is no remedy for this disease.

Flowers and Fruits.—Mr. Maynard presented fine specimens of the large, wing-stalked passion flower (*Passiflora alata*), gigantic fuchsia (*Fuchsia gigantea*), and the double Chinese variegated pink.

Choice samples of the fruits of the season were exhibited from the Fulton and Washington markets; among which were a fine lot of peaches from Delaware, and muskmelons and watermelons from East Jersey.

Stock for Sale.—Those who wish to purchase improved stock of all kinds, have never been offered so good an opportunity to do so, with decided advantage, as will be afforded them at the show and fair of the New-York State Agricultural Society; which comes off at Buffalo, on the 5th, 6th, and 7th of the present month. See advertisements.

ADULTERATION OF FOOD.—No. 3.

Milk.—This liquid, so generally in use, has by no means escaped the cupidity of its venders. The substance, ordinarily employed in its adulteration, is water, a fraud very difficult of detection, more especially when the quantity employed is small. Even when pure, the proportion of water it contains varies considerably, being naturally more at one time than another, and consequently is less rich in cream. Hence its density, or specific gravity, varies, according to the breed of the animal, her food, the climate in which she is kept, and season of the year. In hot summers and dry seasons, the quantity of milk is less, but the average quality is richer. Cold weather favors the production of sugar and cheesy matter, while hot weather increases the yield of butter.

From the above-named facts, it will readily be seen that, independent of any adulteration which may be practised on milk, it is no easy matter to ascertain its purity by means of the hydrometer, or any other instrument, by its specific gravity. Although water would alone cause a great diminution of density, the dealers very well know how to prevent that effect, and thereby render all such instruments inefficient, and consequently useless. For this purpose, it is only necessary to dissolve in the milk a little sugar, or sugar candy, which is required at all events, to correct the flat taste imparted to the milk by diluting it with water.

According to the experiments of M. Lassaigne, as detailed in the "Dictionnaire des Réactifs Chimiques," the average density of pure milk is about 1.038; a mixture of 75 parts milk, and 25 of water, has a density of 1.021; and a mixture of 66 parts of milk, and 34 of water, a specific gravity of 1.02. Hence, as the density of pure milk is variable, it will readily be seen that it is impossible to arrive exactly at the truth, when an extra quantity of water has been added. The amount of adulteration can only be comparatively arrived at, by ascertaining the minimum density of pure milk, and determining whether the specific gravity of the sample examined be above or below.

Not only is water added to milk, but it is a practice with some dealers to abstract a portion of the cream, by allowing the milk to stand for a limited time, and then dilute the remainder with water; then, to give it the apparent qualities of new milk by one or other of the methods mentioned below. The operations of skimming off the cream, and dilution by water, cause, in the appearance of the milk, a very considerable difference; for, merely by the abstraction of the cream, the residual, or skimmed milk, takes a flimsy look, together with a bluish tinge. These appearances increase when water has been added, and, in order to mask the two previous impositions, a third, fourth, or fifth, must be practised.

M. Barruel, a chemist of Paris, has investigated the adulteration of milk with much care, the milk dealers having been as dishonest in that capital as with us. From his investigations, it would appear that the opacity of the milk being much diminished by water, it was at one time common to correct this defect by previously mixing wheaten flour with the water with which the milk was adulterated. But this deception was too obvious to the senses;

for, any person, even of indifferent delicacy of palate, could detect the altered taste of the milk; and besides, after two hours' standing, the flour precipitated to the bottom of the vessel, and the translucent blueness of the liquid was again restored. This is a dangerous fraud, particularly when the milk is eaten in its crude state by young children, or persons in feeble health, as their stomachs are not sufficiently strong to digest raw flour with facility. In order to prevent this inconvenience, the dealers boiled the flour in the water before mixing it with the milk; and, in this manner, an opaque mixture was obtained, which retained its opacity on standing. As, even with this addition, the falsified liquid had a flat taste, sugar, or sugar candy, was dissolved in it, by which means the peculiar sweetness of the milk was nearly restored.

This adulteration, however, had become so easy of detection, by means of iodine, which renders a mixture of boiled flour and water blue, by its action on the fecula in the flour, that M. Barruel had a belief that this species of fraud was generally abandoned. Driven from this device, the dealers resorted to several other very ingenious modes, which, it would seem, could not have been discovered without the aid of some scientific person. Among these, were the employment of an emulsion of almonds, corrected with a little sugar, or sugar candy; and, in some instances, it is stated that a factitious milk was fabricated from gum, the brains of young animals, and other materials, without the use of a particle of genuine milk; and, that the deception was so complete, that it was difficult for the chemists themselves, who were appointed to investigate the subject, to detect the fraud.

The simplest indication of the presence of flour, arrow root, rice, or starch, in milk, is that of small diaphanous clots, which may be seen on the sides of the vessel containing it, if it be transparent. Milk, containing starch, generally, but not always, burns more readily on the bottom of the vessel in which it is boiled, than pure milk.

Chalk, and the milk of almonds, are also sometimes employed for the purpose of restoring the opacity of the milk; but the latter is seldom used, on account of its expense. The presence of chalk may easily be detected, from its settling to the bottom of the vessel in which the milk is contained, in about two hours after mixing, when the bluish color of the skimmed milk returns. In fact, any person, even of indifferent delicacy of palate, can distinguish the altered taste of the milk. A solution of tumeric is also sometimes added, for the purpose of imparting a richness of color, serving to prevent the dilution with water and abtraction of cream being apparent.

There is another species of fraud, which is practised among us to an alarming extent, and loudly calls on our public authorities for reform; that is, the *unnatural method of producing milk for the supply of large cities, by feeding the cows on the refuse of the distillery, and confining them in foul, ill-ventilated stables*. We are happy to learn, however, that this subject has recently been very thoroughly investigated by the New-York Academy of Medicine, and that their ample and elaborate report will shortly appear, which will doubtless merit the attention of the public, in its physical, as well as in its moral bearings.

Butter.—Sad evidences of human depravity are also manifested in the falsification of butter, as well as of milk. This is often done by mixing it with bad flour, oat meal, pea flour, large quantities of salt and water, hogs' lard, old, or inferior qualities of butter, and one instance came under our notice where it was adulterated with a soft kind of cheese. In the winter and spring months, it is well known that the natural color of butter is whitish, and often has the appearance of tallow; and, in order to please their customers, some butter makers color it with annatto, tumeric, the juice of carrots, or the flowers of saffron and marigold, by mixing them with the cream before churning. Although all of these substances are perfectly harmless, unless they are adulterated, the practice should be discouraged, as tending to conceal the defects, and destroy one of the simplest tests of good butter.

Cheese.—The principle substances employed in adulterating cheese, are flour, starch, and common potatoes, boiled and mashed. There is nothing in the latter adulteration that is hurtful to the animal economy, being merely a simple fraud, and, moreover, is easily detected. Indeed, in some parts of Saxony, potatoes of the best quality are dressed in steam, peeled, and reduced to a pulp. Five pounds of this are mixed with about 10 pounds of sweet curd, kneaded together, with the addition of some salt; after lying for a few days, the mixture is again kneaded, pressed into little baskets, where the superfluous moisture drains off, and the cheese is then formed into balls, and dried in the shade. These cheeses are said to keep well, when dry, and their taste and quality improve with age, with the advantage that they generate no vermin.

Cheese is often falsified by coloring, more or less, for the purpose of staining the rind, or imparting a richness to the appearance within. The coloring substances usually employed, are annatto, tumeric, saffron, marigold, &c., all of which are perfectly harmless in themselves, but cheese is not unfrequently colored with stains and pigments, which are highly injurious, and ever poisonous; indeed, so much so, that persons have nearly lost their lives from eating those that have been colored with annatto, adulterated with red lead.

A striking instance of the unconscious injury that is liable to be done, in consequence of adulterated articles of food, is strongly exemplified by the following fact, which occurred in England a few years ago. In a case of poisoning from eating cheese, that had been colored with annatto, it was proved that one druggist sold a quantity of vermilion to another, which had been adulterated with red lead, as is frequently practised, on the supposition that the vermilion would only be used as a pigment in house painting, without the least suspicion of the use to which it would be applied. The purchaser, who adulterated the annatto, which was employed in staining the cheese, presuming that the vermilion was genuine, had no hesitation in heightening the color of his inferior, or spurious annatto, with so harmless a drug. Thus, through the circuitous and diversified operations of commerce, a portion of deadly poison found admission into one of the necessities of life, in a way, too, in which no criminality could be attached to the parties through whose hands it had successively passed.

AMERICAN HORSES IN FRANCE.

BESIDES my hunters, I always have a pair, at least (last summer I had a four-in-hand team), of American nags, and I have invariably found them the pleasantest, fastest, and best-bottomed road horses in the world. I have just received a very neat pair from New York, via Havre, very judiciously selected for me by my brother, making the third pair he has sent me. I have even been well carried to hounds by some of these transatlantic quadrupeds. My present pair, however, do not possess the points requisite for such a service, and I shall, therefore, keep them to their legitimate business for which they are admirably adapted, being very handsome, docile, and smart. They are, like all my other American horses, wonderfully admired. To real connoisseurs, it is becoming a substantial recommendation to be able to guarantee horses as American. I lately sold a pair, aged, and one of them fired in both fore legs, from an injury out hunting, for \$700, principally on account of the pleasant manner in which they drove up to the bit. The attention of the French government has been directed to our breed of horses, and I have no doubt many would have been purchased for their haras, had not the revolution broken out. A long letter might be written on the subject of our breeding in America, which, as a science, is *shamefully neglected*.

We make the above extract from a letter recently published in the New-York Spirit of the Times. The writer's views on the superiority of American roadsters coincide with our own, and are such as we have often endeavored to impress on the attention of our farmers; for, as a "science," as the writer justly remarks, the breeding of horses is "shamefully neglected" throughout the country.

When on our own farm, in conjunction with our brothers, we endeavored to do something practically in this line. Eleven years ago, we accordingly purchased two superior trotting stallions, of the proper size and form to get roadsters, and for the purpose of ensuring their use, let them at a low price to the farmers of our neighborhood. The result is, that a superior breed of roadsters has become quite common in that section of the country. We have one here now, which we daily use, bred by L. F. Allen, of Black Rock, that will, any time, go his eight and ten miles an hour, with ease, along a tolerably level road, and if pushed a little, will increase his speed to eleven or twelve miles. This, to be sure, is nothing for a very fast horse; we merely speak of the pace as not uncommon for the breed. With this speed, they unite great substance and endurance, and are sufficiently handsome for the carriage or saddle. They also prove the best of farm horses.

INTERPRETER WANTED.—The science and practice of agriculture are said to be almost unknown to each other—that they speak in different languages, and want an interpreter.

LIME ESSENTIAL TO THE FERTILITY OF THE SOIL.—All naturally fertile soils are found, upon chemical analysis, to contain a notable proportion of lime; while, in many of those which are naturally unproductive, the proportion of lime is comparatively small.

SHOW AND FAIR OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.

WE trust our readers will bear in mind that this event is to take place at Buffalo, on the 5th, 6th, and 7th, of the present month; and we hope all who feel an interest in the cause of agriculture, that can conveniently attend, will do so, and give their countenance, as well as their aid, to the promotion of the objects of this great and glorious society.

The citizens of Buffalo, with a commendable liberality, worthy of all praise, have, on their own account, raised and expended \$3,500 to fit up the show grounds, and for other preparations. This is about a thousand dollars more than any other place has yet raised for the same object; which, together with the experience derived from any little deficiencies at previous meetings, enables the Superintending Committee to do more for the benefit of exhibitors and visitors, than they have hitherto been able to accomplish.

The facilities for getting to and from Buffalo are greater than those afforded by any other town in the state; and the accommodations offered by the numerous hotel keepers there, are highly satisfactory, and at the usual prices of meals and lodging. Several distinguished gentlemen are to be present to deliver addresses and lectures; and a great show of stock, dairy products, farming implements, vegetables, flowers, fruits, seeds, &c., &c., will be made. We have no doubt, if the weather prove favorable, that it will be the best show ever yet got up by the society, and the most numerous attended; and we say again, let every one make it a point to be there who can possibly do so.

THE COW—HER DISEASES AND MANAGEMENT.—No. 5.

Inflammation of the Bowels—This disease generally arises from the animal catching cold, particularly from being over-driven just before calving; it is also produced by costiveness, both of which causes should be well ascertained before proceeding to the treatment.

The animal is taken with a cold shivering, at first, loathing her food, and seems to be full. She is then seized with violent pains, resembling the "gripes;" the eyes and inside of her mouth are red and inflamed; she often lies down, and rises of a sudden: a purging soon comes on, and what is passed is of a blackish, or coffee color, with a very offensive smell, more so than that of a common "scouring;" the dung is also mixed with a mucous having an appearance of a putrified skin, as also, does the inner layer of the intestines, which seems, in the last stage of the disease, to be separated from the other. The pulse, in this disease, is always low, and the extremities of the animal feel cold.

When the malady is attended with looseness, and arises from cold, the treatment consists first of blood-letting, to the extent of a pint and a half to two quarts, according to the violence of the symptoms, and the size or condition of the animal; and directly after, a dose of the following medicine, mixed together, and given in two quarts of smooth gruel, in which there has been previously dissolved an ounce of common soap:—

Epsom salts, $\frac{1}{2}$ lb. crude opium, $\frac{1}{2}$ drachm; saltpetre (nitre), $\frac{1}{2}$ oz.

This dose will generally be sufficient to remove the violent symptoms of inflammation; and that being done, the following medicine will then be proper to restore the bowels to a healthy state:—

Prepared kali (sub-carbonate of potash), 1½ oz.; saltpetre, ½ oz.; camphor, 1½ drachms; anise seed, 1½ oz.; laudanum, 1½ drachms.

Mix the whole, and give it in a quart of gruel, wherein an ounce of isinglass has been previously dissolved; the dose to be repeated, if the symptoms require it, twice or three times a day.

If the disease is attended by costiveness, then the following dose will be more proper:—

Sulphur, ½ lb.; saltpetre, ½ oz.; anise seed, and coriander, each, ½ oz.; powdered ginger, ½ oz.

The whole to be mixed in two quarts of gruel, in which two ounces of Castile soap have been previously dissolved, to which may also be added, a pint of cold-drawn linseed oil. This medicine may be repeated in twenty-four hours, with half the quantity, if the obstruction is not removed by the first dose. When the violence of the disease is thus got the better of, the sulphur may be continued in small doses, mixed with 1½ drachms of camphor, and ½ oz. each, of anise seed and cumin.

During this disease, the cow should be kept on diluent food, with plenty of Indian-meal gruel, and other thin drinks, which should be warm, in order to assist the operation of the medicines.

Dysentery, or Bloody Flux.—The most formidable of the inflammatory diseases, is the “dysentery,” “bloody ray,” or “flux.” The most common cause of this complaint is cold suddenly applied to the body when over-heated; hence it is apt to follow over-driving, and whatever, by suddenly lowering the temperature of the animal, checks the circulation at the surface, and determinates it to the bowels.

This malady is distinguished by the excrements being mixed or tinged with blood; there is also discharged, as in the case of “Inflammation of the Bowels,” a kind of putrid skin towards the termination of the disease. This complaint is also marked by the suddenness of its attack, and the very offensive smell the excrements give out. Along with these symptoms, there prevails a quick prostration of strength, and all the other marks in the dry state of the skin and coldness of the body, which have been noticed in the last preceding disease.

In the cure, the first step to be taken, in order to check the symptoms of inflammation, is to blunt the acrimony (severity), of the discharge, and to promote the perspiration of the skin. To check the inflammation, bleeding is the great means, immediately applied, and proportioned in quantity to the strength and condition of the animal; but it will not be proper to repeat it more than once, from the rapid tendency of the complaint to mortification. It will, therefore, be more advisable to give a small dose of Epsom salts, mixed with a certain portion of opium, &c., in order to allay the pain, which is usually violent, as in the following prescription:—

Epsom salts, ½ lb.; crude opium, 1½ drachms; nitre, ½ oz.; camphor, 1½ drachms.

To be given at one dose in two quarts of water gruel, and repeated until the symptoms begin to abate. In order to allay the irritation of the bowels, oils and mucilages should be administered; and the

formula which is best adapted here is cold-drawn linseed oil, ½ pint; isinglass, ½ oz.

The isinglass first to be boiled in a pint of skimmed milk, till it is dissolved; then add the oil to it; to be given twice a day. By these means, the more violent symptoms will disappear. The obstruction of the surface is next to be relieved, as a principal point towards completing a cure. The medicines most successful for this purpose are,

Nitre, ½ oz.; camphor, 1½ drachms; opium, 1½ drachms; tartar emetic, ½ drachm.

To be mixed together, and formed into a ball, given at one dose, and repeated twice a day.

In this, and in most other complaints of the bowels, attended with inflammation, it is of much importance that the intestines should have as little to do as possible. The quantity of drink should not be large, and the diet should consist chiefly of gruel and warm mash, sparingly given.

Inflammation of the Liver.—This disease arises chiefly from two causes; the first is, being heated from over-driving the animal when very fat, which is liable to take place when the weather is excessively hot. The second cause arises from some external injury, as a knock, or bruise, which occasions the liver to swell and inflame. The consequence of this disease very often brings on dropsy, or decay of the body; and the more the internal part of the liver is affected, the more dangerous the complaint.

The disease may generally be known by difficulty of breathing, sometimes a swelling is felt about the short ribs, and an uncommon fullness about the region of the womb; the pulse is intermitting, attended with symptoms of fever; the urine is of a yellowish color, and the animal appears as if griped.

The treatment of this malady is to be conducted in a similar manner as the other inflammations before described; but as costiveness is here a leading symptom, the state of the bowels requires a very marked attention. Immediately, then, after bleeding, which should be the first step, let a cooling purge be administered, composed of the following mixture, to be given, at one dose, in two quarts of water gruel, with a pint of molasses, and repeated until the costiveness abates:—

Flour of sulphur, 9 oz.; camphor, 1½ drachms; nitre, 1½ oz.; anise seed and cumin, ½ oz., each.

In two hours after the drink is administered, a pint of linseed oil is to be given in a quart of strong decoction of camomile flowers, in which an ounce of gum Arabic has been dissolved.

These leading measures being premised, the cure is to be finished by the use of diuretics (medicines tending to produce a discharge of urine), of which the following has been employed with success:—

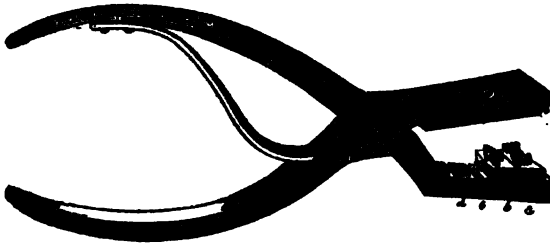
Castile soap, ½ oz.; powdered anise seed, ½ oz.; powdered valerian, ½ oz.; camphor, 1½ drachms; nitre, ½ oz.; fenugreek, ½ oz.; sweet spirits of nitre (spirit of nitric ether), 6 drachms.

To be given in two quarts of water gruel. This dose is to be repeated once or twice a day, till the swelling of the liver, and the other symptoms depart. The food to be given in this case, should be the same as that recommended for inflammation of the bowels; and the animal may be indulged in drinking warm water, or gruel, as often as she is inclined to take it.

MARKING SHEEP.

THE German Merino wool growers have various modes of marking their sheep. The signs, or marks, are either put on by means of color, burnt in, tattooed, cut in, or marks hung round the neck.

Sheep, which are destined for the butcher, are marked with paint on the back, or side.



NIPPERS.—FIG. 72.

The rams are marked upon the horns with hot irons, upon which the numbers, or signs, are engraved.

A very common method, is tattooing. It is done on the inside of the ear by means of signs, or figures, formed of steel points, and forced into the skin in the following manner:—First, a kind of thick paint is made of vermilion, indigo, or gunpowder, and whiskey; when the paint is prepared,

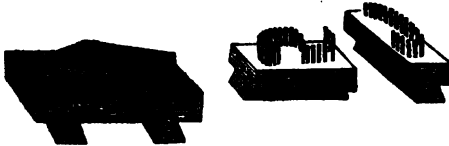


FIG. 73.

the sheep to be marked is bound and placed upon a table and held by one person, while another puts the paint upon the inside of the ear, and presses the signs, or numbers, into the skin, without causing it to bleed; when the instrument has been withdrawn, the paint is rubbed into the marks. In about three weeks, the marks become hardened and are indelible.

All sheep of the Count Caroly's flocks are marked in this way, corresponding with their register and pedigree. The signs and numbers were very distinct, even in old sheep, which had been marked for several years.



FIG. 74.

The instrument used there, is constructed as follows:—Upon the lower jaw of a pair of nippers, as seen in fig. 72, there are grooves, *a*, *b*, *c*, *d*, into which the numbers, or marks, are inserted; these

marks, or numbers, are formed of steel points, as seen in fig. 73.

Fig. 74, shows two ears, in one of which is tattooed 3,465; in the other, the number seven, indicating the year, 1847.

The same instrument can be used for cutting marks in the ears, by placing, instead of numbers or signs, a cutting iron in the shape of a lozenge, with which a part can be cut out from the ear. This method of marking, I practised myself very extensively in the flocks of the Count Leinsheim, in Bavaria.

Fig. 75, represents ears marked in that way, making the number 2,294, namely:—

On the point of the left ear,	25
below, four times one,	4
above, three times five,	15
On the point of the right ear,	50
above, 4 times 500,	2,000
below, 2 times 100,	200
	<hr/>
	2,294

2,294

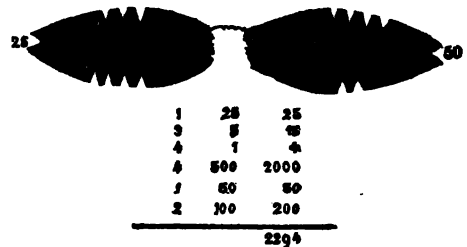


FIG. 75.

Lambs are marked with small pieces of lead, or wood, upon which the number has been stamped, and which are suspended around their necks until they have arrived at an age when the operation of tattooing, or cutting the ear, is done without injuring them.—C. L. Fleischmann, in *Patent-Office Report*.

PLANTATION TOOLS.

UNDER this head, in the June number of the *Agriculturist*, I have some comments to make upon Letter No. 4, of R. L. A., and the letter of Dr. Philips. R. L. A. says, "that much time is lost by the neglect to provide good implements upon nearly all southern plantations." This is very true. But Dr. P.'s statement shows that good tools only need to be seen and known, and they will readily be purchased and used. Let me ask, how, until within a very few years, could a southern planter obtain a supply of good agricultural implements? Why, first, he writes to his commission merchant at New Orleans, 300 or 400 miles distant, who returns an answer that none of the articles wanted are for sale in that city, but he will write to his friend in New York, to forward the things needed. That friend, in New York, happens to be a cotton merchant who scarcely knows a plow from a harrow, and so he sends a boy into the street to "pick up" (that is the term), the as-

sortment of plantation tools required. He succeeds in finding about half as many things as ordered, with corresponding names, and as for quality, he knows no more about that, than he would how to use them upon the plantation where they are bound. In about twelve months after being first ordered, they reach their final destination, half of them broken, and half of the remainder as fine specimens of the ingenuity of the Yankee nation in manufacturing articles "suited to a southern market," as ever were contrived to disappoint the purchaser and make him swear that he would never buy another "Yankee-cheating notion."

Dr. Philips has made a valuable discovery, and it seems by his letter, at p. 181, of your journal, that his neighbors are also beginning to make the same, by the dozen. I cannot better close this article than by the following words of the doctor's:—"There has been too much slop work made up to send out south, on the score that anything will do for these folks; they don't know any better, anyhow." Well, if they do not, I hope they will soon learn better.

SOLON ROBINSON.

Crown Point, Ia., July 10th, 1848.

AGRICULTURE OF THE CHINESE. No. 9.

Views Entertained on the Identity and Difference in Tea Plants.—There are few subjects connected with the vegetable kingdom which have attracted such a large share of public notice as the tea plant of China. Its cultivation on the Chinese hills, the particular species, or variety, which produces the black and green teas of commerce, and the method of preparing the leaves, have always been objects of peculiar interest. The jealousy of the Chinese government, in former times, prevented foreigners from visiting any of the districts where tea is cultivated, and the information derived from the Chinese merchants, even scanty as it was, could not be depended upon. And hence it is, that authors contradict each other, some asserting that the black and green teas are produced by the same variety, and that the difference in color is the result of a different mode of preparation, while others say that the black teas are produced from the plant called by botanists *Thea bohea*, and the green from *Thea viridis*, both of which have been known for many years in the gardens of Europe and America.

During my travels in China, since the last war, I have had frequent opportunities of inspecting some extensive tea districts in the black and green-tea countries of Canton, Fokein, and Chekiang, and the result of these observations is now laid before the reader. It will prove that even those who have had the best means of judging have been deceived, and that the greater part of the black and green teas, which are brought yearly from China to Europe and America, are obtained from the same species, or variety, namely, from the *Thea viridis*.

In various parts of the Canton province, where I had an opportunity of seeing tea cultivated, the species proved to be the *Thea bohea*, or what is commonly called the black-tea plant. In the green-tea districts of the north (I allude more particularly to the province of Chekiang), I never met with a single plant of this species, which is so common in the fields and gardens near Canton. All the plants in the green-tea country, near Ning-po, on the is-

lands of the Chusan archipelago, and in every part of the province which I had an opportunity of visiting, proved, without exception, to be the *Thea viridis*. Two hundred miles further to the northwest, in the province of Kiang-nan, and only a short distance from the tea hills in that quarter, I also found in gardens this same species of tea.

Thus far my actual observation exactly verified the opinions I had formed on the subject before I left England, viz., that the black teas were prepared from the *Thea bohea*, and the green from *Thea viridis*. When I left the north, on my way to the city of Foo-chow-foo, on the river Min, in the province of Fokien, I had no doubt that I should find the tea hills there covered with the other species, *Thea bohea*, from which we generally suppose the black teas are made; and this was the more likely to be the case as this species actually derives its specific name from the Bohee hills in this province. Great was my surprise to find all the plants on the tea hills near Foo-chow exactly the same as those in the green-tea districts of the north. Here were then green-tea plantations on the black-tea hills, and not a single plant of the *Thea bohea* to be seen. Moreover, at the time of my visit, the natives were busily employed in the manufacture of black teas. Although the specific differences of the tea plants were well known to me, I was so much surprised, and I may add amused, at this discovery, that I procured a set of specimens for the herbarium, and also dug up a living plant, which I took northward to Chekiang. On comparing it with those which grow on the green-tree hills, no difference whatever was observed.

It appears, therefore, that the black and green teas of the northern districts of China (those districts in which the greater part of the teas for the foreign markets are made), are both produced from the same variety, and that this variety is the *Thea viridis*, or, what is commonly called the green-tea plant. On the other hand, those black and green teas which are manufactured in considerable quantities, in the vicinity of Canton, are obtained from the *Thea bohea*, or black tea. And, really, when we give the subject our unprejudiced consideration, there seems nothing surprising in this state of things. Moreover, we must bear in mind that my previous opinions were formed upon statements made by the Chinese, at Canton, who will say anything which suits their purpose, and rarely give themselves any trouble to ascertain whether the information they communicate be true or false.

Soil, Aspect, and Culture.—The soil of the tea districts is, of course, much richer in the northern provinces than it is in Quantung. Tea shrubs will not succeed well unless they have a rich sandy loam to grow in. The continual gathering of their leaves is very detrimental to their health, and, in fact, ultimately kills them. Hence a principal object with the grower is, to keep his bushes in as robust health as possible; and this cannot be done if the soil be poor.

The tea plantations in the north of China are always situated on the lower and most fertile sides of the hills, and never on the low lands. The shrubs are planted in rows about four feet apart, and about the same distance between each row,

and look, at a distance, like little shrubberies of evergreens.

The farms are small, each consisting of from one to four or five acres; indeed, every farmer has his own little tea garden, the produce of which supplies the wants of his family, and the surplus brings him in a few dollars, which are spent on the other necessities of life. The same system is practised in everything relating to Chinese agriculture. The cotton, silk, and rice farms are generally all small, and managed upon the same plan. There are few sights more pleasing than a Chinese family in the interior engaged in gathering the tea leaves, or, indeed, in any of their other agricultural pursuits. There is the old man, it may be the grandfather, or even the great grandfather, patriarch like, directing his descendants, many of whom are in their youth and prime, while others are in their childhood, in the labors of the field. He stands in the midst of them, bowed down with age. But, to the honor of the Chinese, as a nation, he is always looked up to by all with pride and affection, and his old age and grey hairs are honored, revered, and beloved. When, after the labors of the day are over, they return to their humble and happy homes, their fare consists chiefly of rice, fish, and vegetables, which they enjoy with great zest, and are happy and contented. I really believe that there is no country in the world where the agricultural population are better off than they are in the north of China. Labor with them is pleasure, for its fruits are eaten by themselves, and the rod of the oppressor is unfelt and unknown.

In the green-tea districts of Chekiang, near Ningpo, the first crop of leaves is generally gathered about the middle of April. This consists of the young leaf buds just as they begin to unfold, and forms a fine and delicate kind of *young hyson*, which is held in high estimation by the natives, and is generally sent about in small quantities as presents to their friends. It is a scarce and expensive article, and the picking of the leaves, in such a young state, does considerable injury to the tea plantations. The summer rains, however, which fall copiously about this season, moisten the earth and air, and if the plants are young and vigorous, they soon push out fresh leaves.

In a fortnight, or three weeks, from the time of the first picking, or about the beginning of May, the shrubs are again covered with fresh leaves, and are ready for the second gathering, which is, in fact, the most important of the season. The third and last gathering, which takes place as soon as new leaves are formed, produces a very inferior kind of tea, which, I believe, is rarely sent out of the district.

A MINK TRAP.

FARMERS, at certain seasons of the year, are considerably troubled with minks, and owing to their wary nature they are seldom caught. A steel trap must be skillfully set and baited in order to decoy them into it. I have known of a plan, however, which succeeded well, which is this:—Put a barrel in some place where they are known to frequent; fill it one third full of water; put therein a few sun-dried fish, or muskrat flesh, and if they

scent the bait, they will soon find the barrel, which they will instantly climb and plunge uncautiously into, where they will soon drown themselves in attempting to retrieve their fallen fortune.

I would recommend the boys to try it, as the skins of the animals will repay them for their trouble, if caught in the fall, winter, or early part of spring.

J. R. S.

Stockholm, N. J., July 12th, 1848.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

Time of Planting Indian Corn.—It is somewhat unfortunate that this long, inappropriate name for this one variety of corn has become so fixed that the short and proper name of *maize* is almost unknown. Though, in fact, in most parts of the United States, the prefix of *Indian*, is rarely used, and the term, *corn*, has no meaning, except for this one kind. In regard to the time of planting maize, I wish the editor of the *Agriculturist* would construct a table, which would show the most approved time for planting, period of maturity, best kind, average yield, and price, in several parallels of latitude in the great maize region of this country. [We will endeavor to do so.] I fully agree with the editor, that very early planting is not the most judicious.

Cultivation of Tomatos.—I am fully satisfied in my own mind, that few, if any, of the other varieties of this fruit, are at all equal in richness to the large "common red," with deep furrows and high protuberances. The largest fruits, and those which show a glistening, mealy inside, when broken apart, are the only ones from which seed should be saved, to suit my taste.

Apple Orchards.—Preventing Worms Ascending.—Has any one ever tested the Galvanic battery recommended some years ago, to prevent worms ascending the trunks of trees? If I remember rightly, it was simply two bands of zinc and copper. [It has been tried, and without the least apparent benefit.]

Improved Pumps.—No part of domestic machinery has been more improved within a few years than pumps. The old clumsy, rotting, filthy, wooden pump will soon be superceded, I hope, by the almost eternal, enduring, iron fabric. In some wells, wooden pumps cannot be used, owing to the bilge-water taste and smell, which the wood gives to the water. In iron pumps, the water is always sweet and wholesome.

Iron Safes.—The article described recommends itself. But there is another safe which I wish to recommend you to get some of "them cute Yankees," to make and place in your great museum of useful things for farmers; and that is, a *seed safe*. A neat, sheet-iron case of drawers, that would be a safe protection against rats and mice, and all kinds of creeping things, in which to keep garden seeds, would be a most desirable, and I have no doubt, saleable article.

The Cast-Iron Plow.—I am glad to see a determination, not only by the editor of this paper, but sundry others, to vindicate the claims of some of the early inventors of this great blessing to farmers, against the arrogant pretensions of those now

claiming the iniquitous law of Congress to tax the farmer 50 cents for every cast-iron plow he uses, under pretence of doing justice to the heirs of Jethro Wood.

Cultivation of Onions.—These are most useful and well-written articles. But can you tell me what is the advantage of roping onions? It seems to me to be a deal of labor, without any corresponding advantage. [When roped, onions are often more convenient for handling; and besides, in hot climates, they can readily be suspended in the air, and consequently will keep longer than when left in bulk.] It is surprising that the raising of onions upon the prairie lands of the west, has never been brought into competition with the more valuable lands of the east. I have been told, and have in fact seen, that the prairie sod, the first season after breaking up, will produce the finest crop of onions that the most greedy Weathersfield cultivator could desire, without an iota of after-culture.

Cutting Potatoes.—I wish to know if you publish this article from your own knowledge, "that the eyes from the end opposite the root end will produce sets a fortnight earlier than those from the root end?" If you do, I am bound to believe it—but I don't now. [We never have tried it ourselves, but there is good authority for it.]

The Cow—Her Diseases and Management.—The first two sentences of this article are worthy to be framed and hung up in every farmer's house, until it comes to the dosing with physic. If the first part of the directions are followed, you "may throw physic to the dogs" instead of the cows. Some persons are eternally dosing their cattle and horses, which is just about upon a par with those who are continually dosing themselves with "mint juleps" "sherry cobbler," and gin cocktails," and such like medicaments; and just as profitable to man as beast. "Air and exercise are absolutely necessary to the cow in order to keep her in a healthy state," to which, add plenty of good wholesome food (not distiller's slops), with plenty of pure water, and my word for it, your recipes for physic doses will rarely, if ever, be needed. [All very good, Mr. Reviewer, yet, long experience has proved that medicine is often indispensable.]

Improved Agricultural Implements.—I do not wonder that the editor of the Christian Examiner, was inspired to write this article after visiting the warerooms of A. B. A. & Co.; for certainly, to every person who possesses the least taste for agricultural pursuits, the vast collection of implements, there to be seen, forms a museum, which is more interesting, at least it is so to me, every time I am in the city, than any other place of amusement. And then, it is so cheap, too. Although I call so often, I am as *incog.* there as to my readers here; but I am treated with such real politeness, whether I wish to purchase or not, that I enjoy myself much better than I ever did in any other museum of curiosities. I do, therefore, invite all, whenever they visit New York, to call at Allen's Museum, 191 Water street, and freely view the curiosities. I am sure they will thank me for the suggestion. And if they do not meet with a most kind and polite reception, I will never guess again.

How shall the Soil be Improved?—This is one of

the most important questions that can be asked, unless it is more important to inquire how to *preserve* the fertility of a virgin soil. The "Theory of Agriculture" which teaches that, if the farmer will restore all the earthy and organic matter of each harvest to the field whence it was taken, he may grow any crop year after year, without injury to the soil, in my opinion, is true. But how are *all* of these to be restored, unless all be consumed upon the farm—nothing must be sold. If it is, the loss must be made up by importation. Making or buying manure and converting it into farm products, is as simple an operation as it is for me to buy cotton and convert it into calico. The only question is, Will it pay? The farm is the mill, the manure the material, the grass the product (or comparatively the cotton yarn); and if the manufacture is continued further, then the cow is the loom and the butter the cloth. Both of these factories must have the raw material. How can the fertility of the soil be improved, or kept good, unless this raw material be furnished? It would be just as reasonable for me to think that those fifty bales of cotton which I bought last week, would keep my cotton mill running for ever, as it is for the farmer to think that he can continue his manufacture of butter and cheese, grain and meat, for exportation, without furnishing an equivalent of raw material. Do, farmers, I pray you, look upon the matter in this light.

Swine—No. 3.—Introduction of Swine into America.—I wish the whole breed, stock, and seed had perished on the voyage. For I do most sincerely believe that it has been a most unprofitable speculation for the people of this country. For, of all kinds of human food, used so abundantly in this country, I do fully believe that hog's flesh is the greatest promoter of the diseases that poor dispeptic mortals are heirs to. And then, what amount of dollars and cents can ever balance the sins rightly chargeable to thee, Oh, thou mighty murderer of the peace of all neighborhoods? But so far as the history of a hog is concerned, the article here under review is a most interesting one; for, in it, the reader may find a digest of the history of all the original American hogs—those with bristles, I mean.

Facts in Farming—No. 2.—I wish to inquire of the writer of this article, what, in his opinion, prevented the rot from attacking the potatoes planted near the corn? And independent of the preventive of disease, if that is so, is it not a good way to plant corn and potatoes in alternate rows?

Yankee Farming—No. 4.—In regard to the subject of raising "taters," no pen could more graphically describe the good old Yankee process, than has that most inimitable and laughter-proving one of Sergeant Teltrue, in this number. And as a commendation of these articles of the Sergeant's, I desire to mention, that my wife (who by the way is somewhat of an Aunt Nabby), says that if the Sergeant will come to see us this fall, she will treat him to such a dish of roast potatoes as his great worth entitles him to.

The Guinea Fowl.—As to this article, it is a very good and readable one, and for aught I know, this kind of fowl may be a very eatable one; but as for the music of a lot of Guinea hens, perpetu-

ally crying, "come back," "come back," Oh! Lord deliver me. The little taste I have for the noise, always gave me a distaste for the meat; and I think that if the writer of this article had lived as many years as I have, upon a cotton plantation, among hundreds of these noisy fowls, his commendation of their good qualities would have been less warm.

Ground Ivy, or Ale Hoof.—Is this pest of Virginia planters, like, or similar to the coco grass of Louisiana? If it is, it is one of the most important subjects for the interest of southern planters that can be discussed, as to how it shall be prevented from spreading, or got rid of.

On the Culture of Silk.—I cannot tell you how much I was interested in the perusal of this article from the prolific pen of your very interesting Eutawah correspondent. I could not help thinking how many other "burnt fingers" there were, besides those of E. S., and how many other than cocoonry fires wherewith to burn our fingers. I believe that some of your readers are of opinion that in some of the comments made upon various articles published in the *Agriculturist*, that a certain gentleman, with name unknown, occasionally burns his fingers. This is not doubted. For who ever knew any mortal to meddle so much with other folk's business and keep sound fingers, figuratively speaking? But until I shall burn them more badly, I shall continue to be your REVIEWER.

DURATION AND FERTILIZING EFFECTS OF ANIMAL MANURES.

ALL portions of animal manures are good, but different in the rapidity of their fertilizing effects, as well as in their duration. The principle of this difference is described by Professor Johnston as follows:—

Horn, hair, and wool depend for their efficacy precisely on the same principles as the blood and flesh of animals. They differ chiefly in this, that they are dry, while the blood and flesh contain 80 to 90 per cent. of their weight of water. Hence, a ton of horn shavings, of hair, or of dry woolen rags, ought to enrich the soil as much as ten tons of blood. In China, the hair, which, in every ten days is shaven from the heads of the entire population, is collected and sold for manure throughout the empire. The effect of soft animal matters is more immediate and apparent, while that of hard and dry substances is less visible, but continues for a much longer period of time. Woolen rags, when made into a compost, and fermented, form an excellent manure for hops, turnips, and most other kinds of crops.

CARROTS AS BEE FEED.—Some years ago, M. Scheidlin, gardener to the king of Wurtemberg, observed that bees were fond of sucking the saccharine particles of the boiled raspings of carrots, and accordingly placed some, boiled to a jelly, near their hives.

A HINT TO BEE KEEPERS.—The Greeks and Romans eradicated all poisonous and bitter-tasting herbs from the vicinity of their apiaries, lest they should impart a bad quality to the honey.

THE PEA FOWL.

The peacock view, still exquisitely fair,
When clouds forsake, or when invest the air;
His gems now brightened by a noon-tide ray;
He proudly waves his feathers to the day,
A strut majestically slow assumes,
And glories in the beauty of his plumes.

Paraphrase of the Book of Job.

THE common pea fowl (*Pavo cristatus*), has probably been tamed and domesticated ever since there have existed human eyes to admire it. It is said to have been brought from the barbarians into Greece; and being for a long time rare, it was then exhibited for money to the admirers of beauty in a similar manner as menagerie birds are with us, at the present day. At Athens, both men and women were admitted to examine it every new moon, and profit was made by the show.

As might be expected of a bird that has been reared in captivity for several thousand years, the pea fowl may be rendered very tame, and capable of considerable attachment to man. By regular feeding, it may easily be made to take its place, as



THE PEACOCK.—FIG. 76.

a liveried attendant at the front door, in order to show himself, and await with great punctuality, for his meals. Indeed, so charming is the perfect combination of grace and splendor, displayed by these most lovely creatures, so excellent is their flesh, so hardy are they in their adult state, that, were it not for certain inconveniences attendant upon keeping them, and also perhaps, for the indifference with which everything not rare is apt to be regarded by us, they would be sought after as never-tiring objects wherewith to gratify the sense of sight. Who does not remember the thrill of delight with which, in childhood, he first gazed upon their brilliant gorgeousness? Peacocks and gold fill our youthful imaginations as fit elements of the magnificence of Solomon; and no fable more fitly chose its decorations than that which attached

these feathered gems, in association with the many-colored Iris, to the train of imperial Juno. Even the peahen, though sober in her coloring, is most harmoniously shaded, and every movement is coincident with the line of beauty.

There are two varieties of the common pea fowl, namely, the pied and the white. The first has irregular patches of white about it, like the pied Guinea fowl, the remainder of the plumage resembling the original sort. The white have the ocellated spots on the tail faintly visible. These last are tender, and are much prized by those who prefer variety to real beauty. They are occasionally produced by birds of the common kind, in cases where no intercourse with other white birds can have taken place.

The natural disposition of the peacock is selfish and gluttonous, and it is only by pampering this weakness that he can be persuaded into obedience and attachment. He is vain, and at the same time ungallant. He is far from manifesting the politeness and attention which the common cock shows towards his mates. The peacock will greedily snatch from the mouth of his hens those titbits and delicate morsels which the cock would either share with his favorites, or yield to them entirely. The peahen, in return, cares less for her lord and master, and is more independent of him, when once her amorous inclinations have been indulged. She then regards the display of his tail, his puffings and struttings, and all the rattling of his quills, with the coolest indifference. Nor does he seem to care much about her admiration, or to make all this exhibition of his attractions to secure her notice, but is content, if he can get some astonished hen, or silly, bewildered duck, up a corner, to wonder what all this fuss is about. Like other vain coxcombs, he expects the lady to make the first advances. Although occasionally cruel, the peacock is shy of fighting, particularly when in full plumage; nor do these birds so frequently engage with each other as with those of a different species, such as drakes, cocks, &c. One, out of feather, was seen to keep up a three hours' struggle with a musk drake; had it been in full plumage, it would not have shown fight at all.

In general, the peahen makes her nest on the bare ground, amongst nettles, or rank weeds; sometimes she chooses the shelter of a young fir tree. The egg very much resembles that of the ostrich in miniature, being smooth but indented all over with little dimples, as if pricked with a large pin. It is somewhat bigger than a turkey's egg, bulging considerably at the larger end, of a dull yellowish white, and occasionally, but not always, spotted, or rather freckled, with a few small reddish-brown marks. The newly-hatched chicks are streaked on the head and neck, with alternate stripes of dingy yellow and pale brown; the legs are of a dusky-yellowish tinge.

The probable term of life of the pea fowl is 18 or 20 years; and the young poults may be eaten at nine months old. The female does not lay till her third summer; but she then seems to have an instinctive fear of her mate, manifested by the secrecy with which she selects the place for her nest; nor, if the eggs are disturbed, will she go there again. She lays from four or five to seven. If these are

taken, she will frequently lay a second time, in the course of the summer, and the plan is to be recommended to those who are anxious to increase their stock. She sits from 27 to 29 days. A common hen will hatch and rear the young; but the same objection lies against her performing that office, except in very fine long summers, for the pea fowl, as for turkeys; namely, that the poults require to be brooded longer than the hen is able conveniently to do. A turkey will prove a much better foster mother in every respect. The peahen should of course be permitted to take charge of one set of eggs. Even without such assistance she will be tolerably successful.

The chicks are engaging little things, most elegant in appearance, very tame, and confident. They may be made to sit upon the hand to peck flies from the window. The same wise provision of nature, already noticed in the Guinea fowl, at page 158, of the present volume, is evinced by them in a still greater degree. Their native jungle, in India, tall, dense, sometimes impervious, swarming with reptiles, quadrupeds, and even insect enemies, would be a most dangerous habitation for a little tender thing, that can but run and merely squat. Accordingly they escape from the egg with their quill feathers very highly developed. In three days, they will fly up and perch upon anything a yard in height; in a fortnight, they will roost on trees, or the tops of sheds; and in a month or six weeks, you would see them on the ridge of the barn, if there were any intermediate low stables, or other building, that would help them to mount from one to the other.

Old birds, received from a distance, are difficult to settle in a new home. Housing they do not like, and will scarcely bear. Most liberal feeding is the best bond of attachment, but even with that they will unexpectedly be off, and will perhaps be stopped on the high road, like other suspicious vagrants. It is recommended to procure a sitting of eggs, place them under a hen turkey, and have the pleasure of watching their whole progress, literally *ab ovo*. Those who are impatient to have a full-grown stock, should still select birds not more than three years old.

The causes which disincline many persons from indulging themselves with the daily spectacle of this inapproachable model of beauty, are, in the first place, the depredations that it commits upon gardens. For this there is no help. The dislike which these birds have to enter a fowl house, and their decided determination to roost on trees, or lofty buildings, prevents our exercising a control which should restrain them from mischief till an eye can be kept upon their movements. At the first dawn, or at the most unsuspected moments, they will steal off to the work of plunder. A mansion, therefore, the fruit and vegetable garden of which is at a distance, is almost the only place where they can be kept without daily vexation. The injury they do to flowers is comparatively trifling; though, like the Guinea fowl, they are great eaters of buds, cutting them out from the axils of the leaves as cleanly as a surgeon's dissecting knife would do. They must also have a dusting hole, which is large and unsightly; but this can be provided for them in some out-of-the-way nook; and by feeding and encouragement, they will soon be

taught to dispose themselves into a *tableaux vivant*, at whatever point of view the tasteful eye may deem desirable. No one with a very limited range should attempt to keep them at all. But where they can be kept, they should be collected in considerable numbers, that their dazzling effect may be as impressive as possible. It should be understood, however, that no vineyard be at hand. The greenness and sourness of the grapes, which caused the fox to refrain, would be but a weak argument with them.

A second objection to them is their alleged wanton destructiveness towards the young of other poultry, a propensity respecting which, the accounts are very contradictory. It is believed, however, that the peacock becomes more cruel as he advances in life, although they often vary in their dispositions. A writer on this point, says: "I have known them to kill from 12 to 20 ducklings, say from a week to a fortnight old, during one day; but if they came across a brood of young chicks or ducklings a few days old, they would destroy the whole of them." And yet, in the face of all this condemnatory evidence, we now and then see a favorite bird, with neck of lapis lazuli, back of emerald, wings of tortoise shell, and tail outshining the rainbow, in some old-fashioned farm yard, the pet of his mistress, who is, perhaps, the most successful poultry woman in the neighborhood, and whose stock shows no sign of any murderous thinning. The peahen, which, when she has eggs or young, seems really a more guilty party, is not in general even suspected. So true is it that one man may steal a horse while another must not look over the hedge.

Nervous and fastidious persons object to their cry, or, call, which, indeed, is not melodious; and a strip of woollen cloth is sometimes hung round their necks in the fashion of a collar, to silence them; the appendage, however, is anything but an ornament, and the effect is not permanent. But it must be regarded as an unhealthy symptom, when any natural, or rural, sound is displeasing to the ear. The bleating of sheep, the pattering of rain, the hum of bees, the pealing thunder, the laughter of children, the breezy rustling of a grove, the lashing of wintry waves, and the sighing of summer winds, have all been felt by listeners in their happiest moods to be most musical—to have an effect more touching than any music; and should, therefore, be welcome, instead of distasteful, to the healthy sense. And even the screams of pea fowl, ringing from a distance, on a summer's evening, will suggest an abundance of images and recollections that cannot fail to interest any but the most dull and unimaginative minds.

If fatted, the pea fowls should be shut up together with any turkeys they may have been in the habit of associating with, and fed exactly the same. If confined alone, they pine. They are, however, an excellent viand at a much more advanced age, and without any more fattening, provided they have been well fed, and killed at a proper season; that is, when they are not renewing their plumage, and are in the larder hung up a sufficient time before cooking. A disregard to these points has probably led to their being so little appreciated as a dainty dish. Pork, in the dog days, and illegal oysters, might, in

a similar manner, give a bad repute to other good things, did we not manage them better. When dressed for table, they should be larded over the breast, covered with paper, roasted by a gentle fire, and served with brown gravy, exactly like partridges or pheasants. When moulting, extra diet and varieties of food, including hemp seed and animal substances, are most desirable.

LIEBIG'S THEORY OF THE MOTION OF JUICES.

TAKE a horseshoe-shaped tube, fill it with pure water, close both ends with bladder, then place one end in a vessel containing brine, colored blue. We observe, after a few hours, that a blue stratum forms within the tube, which constantly increases, till at last the brine is all drawn up into the tube.

* * Bile, or oil, will be drawn up in the same way. This is effected by the evaporation of the water through the bladder, which is exposed to the air; and as this evaporation goes on, the brine is gradually forced through the other bladder. * *

The quickness of this process is directly proportionate to the rapidity of evaporation, and, consequently, to the temperature and hygrometric state of the atmosphere. That the skin of animals, and the cutaneous transpiration, as well as the evaporation from the internal surface of the lungs exert an important influence on the vital processes, and thereby on the state of health, has been admitted by physicians ever since medicine has existed; but no one has hitherto ascertained precisely in what way this happens.

The result of the previous investigations would seem to be, that one of the most important functions of the skin consists in the share which it takes in the motion and subdivision of the fluids of the body. The surface of the body of a number of animals consists of a covering, or skin, permeable to liquids (like the bladder in the experiment), from which, when in contact with the atmosphere, an evaporation of water, according to the hygrometric state and temperature of the air, constantly goes on. If we now keep in mind that every part of the body has to sustain the pressure of the atmosphere, and that gaseous fluids and liquids contained in the body oppose to the pressure a perfectly equal resistance, it is clear that, by the *evaporation from the skin and lungs, these parts lose their moisture, which is again drawn by capillary attraction from the part beneath*—thus causing a steady flow towards the surface. This close connexion, which the previous remarks show to exist between the pressure and hygrometric state of the atmosphere, and the motion of the vital animal juices, at once explains the influence which a residence in dry or moist air, at great elevations, or at the level of the sea, may exert on the health. * * The blistering of the skin, and the sunburnings to which men are exposed at great elevations, arise from the extraordinary dryness of the air, the increased evaporation, and the pressure by which the fluids, filling the vessels, are forced towards the surface.

In a precisely similar manner is the sap forced up the stems of trees, &c. By the evaporation of the water from the surface of their leaves a vacuum arises within them, in consequences of which,

water, and matters soluble in water, are driven inwards (through their roots), and forced upwards.

It has been ascertained that this pressure is nearly equal to that with which the blood moves in the great femoral artery of the horse.

CANADIAN METHOD OF HUNTING WILD BEES.

THE Canadians adopt an ingenious plan for discovering the trees that are stored with honey. They collect a number of bees off the flowers in the forest, and confine them in a small box, at the bottom of which is a piece of honeycomb, and on the lid a square of glass large enough to admit the light into every part. When the bees seem satiated with honey, two or three are allowed to escape, and the direction in which they fly is attentively observed until they become lost in the distance. The bee hunter then proceeds towards the spot where they disappeared, and liberating one or two more of the little captives, he also marks their course. This process is repeated, until the other bees, instead of following the same direction as their predecessors, take the direct opposite course, by which the hunter is convinced that he has overshoot the object of his pursuit; for it is a well-known fact, that if you take a bee from a flower situated at any given distance *south* of the tree to which the bee belongs, and carry it in the closest confinement to an equal distance on the *north* side of the tree, he will, when liberated, fly in a circle for a moment, and then make his course direct to his sweet home, without deviating in the least to the right hand or to the left. The hunter is now very soon able to detect the tree which contains the honey, by placing on a heated brick a piece of honeycomb, the odor of which, when melting, is so strong and alluring, as to entice the whole colony to come down from their citadel. When the tree is cut down, the quantity of honey found in its excavated trunk seldom fails to compensate the hunter very amply for his perseverance.

LETTERS FROM ABROAD.—No. 4.

Extreme Care Observed in the Treatment of the Wine.—After the wine has been drawn off from the press, and the requisite quantity of brandy added, no physician can more anxiously watch a patient than does the wine farmer his tonels, on which his revenue often entirely depends. He locks his wines carefully up, constantly attending to them himself, with his chief overseer and other assistants, all of whom taste and pass their judgment; nor will he allow a stranger to taste nor see his wines before their good qualities are well developed and known.

Origin of the Port-Wine Trade.—The first introduction of wine into England, from Portugal, is believed to have been from the romantic banks of the Lima, two or three centuries ago. For a long period, the wine was there made in small vats, holding only two or three pipes each, and just sufficient brandy was added to preserve it till it arrived at its destination, where, whilst fresh and unripe, it was consumed, unbottled, at once from the cask. It was subsequently discovered, however, that the vines on the banks of the Douro produced a richer and a far more generous wine than that made on the Lima; and three or four British mercantile houses,

engaged in the trade, removed to Oporto, whence they shipped off such wines as they could buy, with little attention to its quality. At last, experience taught them that the flavor of the wine improved by proper management; and from that time, its qualities being justly appreciated in England, its consumption rapidly increased, so that in the year 1749, the quantity exported into that country amounted to 22,738 pipes. At present, many English houses rent vineyards here for a term of years, and have the wine made under their own direct charge. There is also established at Oporto a Company of Inspectors, possessing no monopoly, but vested with certain privileges, with the authority of approving of such wines as they think appropriate for the British markets. In the month of January, this company is permitted to taste the wines and judge of their quality, issuing tickets of approval, or otherwise, as they think proper.

Annual Wine Fair.—About the middle of February, of each year, a fair commences, previous to which, the merchants hasten to the wine country, where they have establishments, accompanied by their head clerks, coopers, &c., and mounted on the backs of mules, with a train of servants on foot. The wine is tasted from a flat silver cup, with an elevation in the centre, which exhibits its color; and as they thus judge of the wine, they note the quality of each sample in their books, which they cautiously compare before the purchase is made. Sometimes the bargain is concluded on the spot, but generally the farmer proceeds for the purpose to the house of the merchant.

Transportation, Storage, and Subsequent Treatment of the Wine.—The purchase being concluded, the wine is now drawn off into pipes, under the supervision of an overseer, and hauled to the river side in carts, or sledges, drawn by oxen, after which, it is embarked in large flat boats, and conveyed down the river to Villa Nova da Gaia, opposite Oporto, where it is stored, above ground, in the vaults, or lodges, in the long, low warehouses belonging to the Oporto merchants. Here the wines are racked off and assorted, according to their respective qualities; and a little more delicate brandy is added, with the greatest care, in order to secure long and perfect keeping.

In about two years, or even less, the finer wines of any superior vintage are considered to be in a fit state for shipment. The older wines are kept in pipes from four to eight years before they are shipped, according to the quality required. Hence the expense of keeping these wines, in store, is very considerable, owing chiefly to the high rent and the number of people employed about them, as well as of the great loss of their volatile portions by evaporation, amounting, in some lodges, to about 3 per cent. per annum. From the stores, the wine is again carted, in pipes, quarter casks, &c., to the river, where, after paying a heavy export duty, it is shipped, and afterwards bottled for use.

Advice in Selecting Port Wine.—In selecting Port wine, the first thing to be considered, is the kind one likes, and the price he wishes to pay; for there are as many sorts of this wine, and as many different tastes, in regard to its qualities, as there are farmers who produce it. By age alone, if properly made, it always ought to be classed.

As a general rule, the shortest time, in order to give it fair play, in which it should be kept in bottle, is two years; four years improve it more, and in six years, it arrives at perfection. Wine merchants are often at fault in keeping wine too long in the cask before bottling, in consequence of which, its flavor becomes essentially impaired. The old wines, shipped from Oporto, of six or eight years standing, should be bottled as soon as practicable after their arrival at any port in the north of Europe, or of the United States.

Of the different qualities, first stands the "tawny old Port," just from the cask—"bright as a ruby," but its ruby tint has flown, and it is perfectly "dry" and "soft." If these qualities are not combined, do not confide in it. It must have spirit and a slight aroma, but no vapidness. Then, if the honorable wine merchant assures you that it was shipped to him by one of the first Oporto houses, and that he has had it bottled in his cellar for five or six years, you may rest satisfied that you have a genuine article, and one which is well worth the price you pay for it.

The next class to be sought, is what has been bottled "younger," but afterwards kept as long, or longer, than the "tawny old Port." It should be of a sparkling red color, with a perfect fragrance when the cork is drawn—both "dry" and "soft," with a "fine nutty or fruity flavor," like the essence, if you please, of a ripe, hot-house grape. And, above all, if you wish to drink unadulterated wine, do not buy, except of the most respectable dealers; for it is verily believed that the consumption of Port wine has decreased more from the ignorance, or knavery, of petty and dishonest wine dealers, than from any other cause. Either of the two sorts of wine, described above, may be used by invalids, or kept for summer use; but a stouter wine, with plenty of spirits, and a degree of smoothness, is preferable for winter, or for those who have "hotter mouths." If the wine contains too much saccharine matter, it will sink sooner in water, than will old wine; and if it sinks at once, when poured gently into a glass, do not buy it, as it is not a properly fermented wine.

There are many other descriptions of Port of less value than those named above, yet tolerably good; some rather coarser and rougher; others thinner and less rich, varying much, according to their age; so that it would be difficult to give any advice concerning them.

In regard to the color of Port wine, as stated in a former letter, it proceeds alone from the skin of the grape. Many persons, it would seem, have an idea that the juice of the Douro grape is dark, whereas, in fact, it is perfectly colorless. When, therefore, they insist on having more color in the wine, in reality they ask for more of the substance, which forms the skin. Again, if the skin be of a reddish hue, as is often the case, the wine cannot be black. Neither do dark-skinned grapes make the most delicate wine; indeed a very dark color and delicacy of flavor are seldom known to exist in the same wine. That the grape, when much pressed, till the very stalks are mashed to a pulp, and every particle of coloring matter is extracted, stands to reason; however much they be

pressed, there are few kinds of grapes that will impart a black color to wine. Let it be remembered, then, that wine of a very dark tint, when it arrives in the United States, is more apt to lose color than that of a lighter and natural hue.

In former times, the juice of elderberries was frequently added to Port wine, in order to heighten its color, as well as to impart an astringent taste. This practice was at one time carried to such an extent that the Royal Wine Company of Portugal was at the expense and trouble of rooting out all the elder bushes in the wine district, with the object of prohibiting their growth.

To select a pipe, or a case, of wine, is a matter of no small moment; and he who has this task to perform should recollect two things—the state of the weather, and the state of his own stomach. Let him choose a fine, bright day, but not one which is cold, after having passed the evening previous quietly at home, abstaining from wine and other strong drinks; for, otherwise, he will run the risk of making a mistake. If heated, he will like a thin, vapid wine—if he come from a cold air, he will prefer one that is brandied and strong; neither of which will please him, when the weather is mild. Few persons, it is well known, can form a correct opinion of Port wine, by tasting it only once. After dinner, if one tastes a dry, old wine, after having partaken of sweetmeats, or after having drunk a rich luscious wine, the first will appear vapid, and without flavor. In choosing wine from the cask, it is seldom so "soft," so "bright," nor so "spinty," as when taken from the bottle.

In conclusion, decide in your own mind as to what sort of wine you require; go to the honest wine merchant on a fine, balmy day, with a clean palate; remember *not to care about a dark color*, and shut your eyes when you taste. Take a dry wine first, to wash out your mouth; then, the one most recommended. After sipping six samples, begin to distrust your taste. Do not judge of a rich wine after a dry one, nor *vice versa*, and do not be led to taste all sorts of other wines before you make your choice.

Thus, kind readers, with many apologies, I end my dissertation on grapes and Port wine.

F. R. S.

San João da Pesqueira,
Upper Douro, Sept. 30th, 1847. }

THE HONEY BEE, A CARNIVOROUS INSECT.—It is generally supposed that bees feast solely upon the sweets of flowers; but in the environs of Orenburg, in Asiatic Russia, they are believed to suck blood, decayed flesh, &c. Rytchkof, being desirous of ascertaining if bees are really consumers of flesh, plucked a dead fowl and placed it within a hive, where it remained untouched by the bees for three or four days; but no sooner did it begin to decay than they eagerly assailed it, leaving nothing but the bones. They have even been known to make their habitation in the skulls and other cavities of dead animals.

A NATURAL FLY POISON.—The flowers of the oleander (*Nerium oleander*), it is stated, yield a honey that proves fatal to myriads of flies,

DESTRUCTION OF FRUIT TREES BY THE SEVENTEEN-YEAR LOCUST.

By referring to the March number of your journal for 1847, p. 86, you will find an account of my researches at the roots of my pear trees. I there stated my belief that the larvæ of the seventeen-year locust (*Cicada septendecim*), were the principal cause of the failure of fruit in this neighborhood. Since then, I have continued my observations, and am now convinced that, if not the sole cause, it is one of grave importance, as the decline of not only fruit but forest trees may be attributed to them, particularly the pear, apple, and the oak. The trees in the garden and orchard, that I have not been able to attend to, are either declining rapidly, or are already dead, the roots having been drained of their sap by the locusts, while those from which these pests have been gathered, are, without exception, recovering, some having fruit, and all throwing out healthy shoots and leaves.

My first experiment was tried on two pear trees, believed to be past recovery, and therefore fit subjects for a merciless exposure of their roots. From one tree alone, as before stated, I gathered more than four hundred locusts, besides numbers that were unavoidably destroyed. All the earth being removed within a circumference of six feet from the body of the tree, and two feet in depth, the excavation was immediately filled with fresh soil and manure; though little hope was entertained for the recovery of the trees. This occurred in March, 1846; and now (July, 1848), the trees are covered with healthy verdure, and the top branches loaded with finer fruit than they have borne for six years. The old, and moss-covered bark is peeling off, and a healthy growth of suckers putting forth from every branch. Though much of the returning vigor of the tree is to be attributed to the manure and fresh soil placed at their roots, their decline was unquestionably produced by the locusts. None of the trees in the garden, nor orchard, that are too young to be infested by the locusts, have suffered in the same way, and all the trees, old and young, have been carefully manured and cultivated, though not to the extent that was necessary while removing the insects.

I send these additional facts, hoping to call the attention of those who are interested in the culture of our valuable forest, as well as fruit trees, to a subject that has heretofore escaped notice, and on the next appearance of the locusts, let each one judge for himself, as he sees the countless swarms emerging from the roots of the valuable timber, on which they have been feeding for seventeen years, whether they are not an evil to be dreaded, and guarded against.

Since writing the above, I have received the Rochester Daily Advertiser, of the 26th of June, containing an interesting article on the seventeen-year locust, which has confirmed me in my wish to make this public, as the fact of the larvæ of the locust feeding on the roots of trees appears so little known. The author ends his very interesting and correct account of the perfect insect, by stating that "after the eggs are hatched, the insect appears in the larva, or grub form, feeds upon the foliage of the trees and shrubs in the vicinity, attains its full size in a few weeks, descends into the earth be-

low the reach of frost, retaining its skin, or shell, remaining in the earth for the period of seventeen years, when it returns to the surface, casts off its skin, and comes out with wings. What they eat, or whether they eat at all, during their subterranean life, is not known." And, in conclusion, he states, that "we are in little danger of being severely scourged by any depredations of the locust."

A mistake of this kind, made by so intelligent a writer, and disseminated through our public journals, demands attention, as recent observers have traced its history, and prove its habits in the larva state to be sadly injurious. Great numbers might be destroyed when the grubs first make their appearance, and the evil may be greatly lessened in our groves and orchards, by a vigorous pruning of the branches on which the eggs are deposited, as the larvæ drop from the branches a few minutes after they are hatched, and shortly after descend into the earth, penetrating, in an incredibly short time, to the roots, where they remain feeding for the next seventeen years, draining the vital principle more and more, as they increase in size, until thousands of our most valuable fruit and forest trees die of exhaustion, without any apparent cause.

M. H. M.

Germantown, Pa., July, 1848.

A GOOSE STORY.

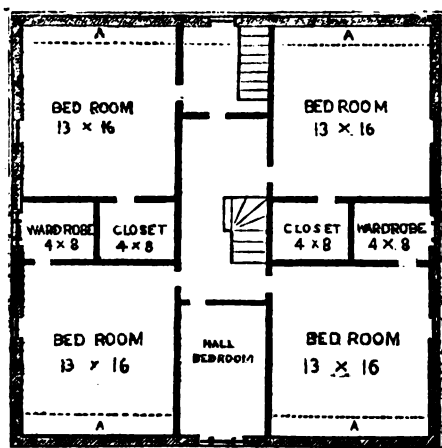
At the flour mills of Tubberakeena, near Clonmel, Ireland, while in the possession of the late Mrs. Newbold, there was a goose, which, by some accident, was left solitary, without mate or offspring, gander or gosling.

Now, it happened, as is common, that the miller's wife had set a number of duck eggs under a hen, which in due course were incubated; and, of course, the ducklings, as soon as they came forth, ran with natural instinct to the water, and the hen was in a sad pucker—her maternity urging her to follow the brood, and her selfishness disposing her to keep on dry land. In the meanwhile, up sailed the goose, and with a noisy gabble, which certainly (being interpreted), meant, leave them to my care, she swam up and down with the ducklings; and when they were tired with their aquatic excursion, she consigned them to the care of the hen. The next morning, down came again the ducklings to the pond, and there was the goose waiting for them, and there stood the hen in her great frustration. On this occasion, we are not at all sure that the goose invited the hen, observing her maternal trouble, but it is a fact, that she being near the shore, the hen jumped on her back, and there sat, the ducklings swimming, and the goose and hen after them, up and down the pond. And this was not a solitary event. Day after day, the hen was seen on board the goose, attending the ducklings up and down, in perfect contentedness and good humor, numbers of people coming to witness the circumstance, which continued until the ducklings, coming to days of discretion, required no longer the joint guardianship of the goose and hen.—*Rev. C. Ottway.*

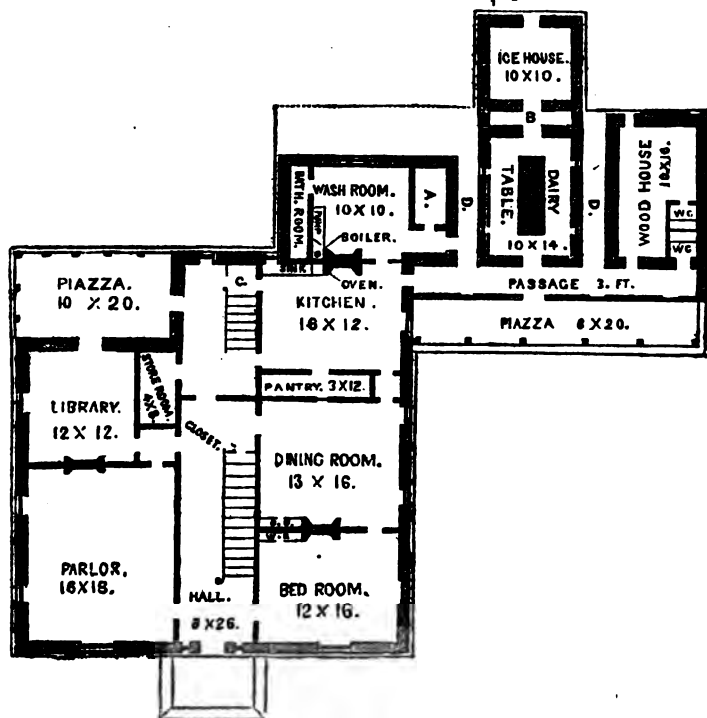
THE BEST AMERICAN BEE FLOWERS.—Buckwheat and white clover—the former produces the best honey, but is less saleable, from its dark color.

PLAN OF A FARM COTTAGE.

THE accompanying plan is designed to front south, with an elevation of thirteen feet from the sills to the roof. It should occupy somewhat elevated ground, sloping a little to the north, and



ATTIC FLOOR.—FIG. 77.



GROUND PLAN.—FIG. 78.

finish of the chambers and the roof, which will prevent the rooms from becoming heated in summer.

The site should be selected with a view to the easy construction of drains from the sinks, bathing house, dairy, &c., directly to the piggery, or barnyard.

It is of course expected a good farmer will have a good cellar, and in some situations, the best way of warming a house is by a hot-air furnace in the cellar. The size of the cellar and its particular divisions should, of course, depend on the wants or circumstances of the builder. In some cases, it may be expedient to have it extend under the whole of the main body of the house. It may be observed, however, that it is not advisable to store large quantities of vegetables under dwellings, as the exhalations from them, especially when unsound, are known to be decidedly prejudicial to health. Hence, the barn cellar, and not that of the dwelling house, should be the repository of such vegetables as are wanted for the use of domestic animals.

Directions in regard to warming houses by furnaces, may be found in works relating to the subject, or may be obtained from persons engaged in their construction. There are various modes; but my own experience does not enable me to decide upon their relative advantages.

In the construction of this plan, it has been my object to combine utility and beauty, as far as practicable with the labor-saving principle. In the arrangement of the kitchen and dairy, particularly, special regard has been had to securing the proper requisites for those important departments with the greatest practicable degree of convenience.

In constructing a dairy, it is proper that such an excavation should be made as will leave the floor, which should be made of stone, two or three feet below the surrounding surface. The sides should be of brick, or stone, and plastered; the walls high, and the windows made so as to shut out the light, and admit the air. The advantage of thorough ventilation and pure air is acknowledged by every one, who has ever paid attention to the manufacture of butter though it is a matter generally too little thought of, in the construction of apartments for this purpose.

It will be observed, that in the plan herewith submitted, an open space of two and a half feet has been provided for, on both sides of the dairy.

To render the establishment as perfect as possible

should be raised on an underpinning to suit the ground. To give chambers of the size designated, the apex of the roof should not be less than twenty-two or twenty-three feet above the sills. It is highly proper to leave a space for air, between the

the command of a good spring of water, which may be conducted through the dairy room, is necessary; when that cannot be had, an ice house in direct contact (as in the accompanying plan), and a good well or water convenient, form the best substitute.

The expense of such a house, in this vicinity,

might be varied from fifteen hundred to three thousand dollars; according to the style of finish, the taste and ability of the owner, &c. The main conveniences may be retained at the lowest estimate, by omitting the ornamental front.

M. W. HOWARD.



PERSPECTIVE VIEW OF A FARM HOUSE.—FIG. 79.

The preceding designs for a dwelling were presented to the New-York State Agricultural Society by Mrs. Sanford Howard, of Albany, and were published in their Transactions for 1847. Although executed with considerable taste, and would give, in some situations, rather a pleasing effect to

the landscape, we agree with the Society's Committee on Designs of Farm Buildings, that it is "not best calculated to be thrown before the farmer as a style best adapted to his economical wishes and limited means." For our own views on this subject, see pp. 186, 188, of the present volume.

CONVENTION OF FRUIT GROWERS.

WE are authorized to state that it is proposed to hold a Central Convention of Fruit Growers and Pomologists, in the city of New York, at the time of the Fair of the American Institute, to be held at Judson's Hotel, No. 61 Broadway, commencing Tuesday, the 10th of October, at 10 o'clock, A. M. Among the objects to be proposed at this convention are the following:—To compare fruits from various sources and localities, with a view of arriving at correct conclusions as to their merits, and to settle doubtful points respecting them; to assist in determining the synonyms, by which the same fruit is known in different parts of the country; to compare opinions respecting the value of the numerous varieties already in cultivation, and to endeavor to abridge, by general consent, the long catalogue of indifferent or worthless sorts, at the present time propagated by nurserymen and fruit growers; and to elicit and disseminate pomological information, and to maintain a cordial spirit of intercourse among horticulturists. In order to increase as much as possible the interests of the convention, the delegates are requested to bring with them (carefully packed and labelled, so as to present them in good order), specimens of all fruits grown in their vicinity that may be worthy of notice, together with a small branch and leaves of each variety, if possible. In localities where any well-known, old varieties flourish particularly well, specimens are desired, accompanied with memoranda respecting the soil upon which they grew, and their culture.

Societies will please to transmit, at an early day, a list of the delegates they have appointed, to T. B. Wakeman, Esq., Corresponding Secretary of the American Institute, New York.

UNNATURAL AND INJURIOUS OVER-FEEDING OF BREEDING ANIMALS.

AT very many of the meetings and gatherings of the president, vice-presidents, and members of council, as well as at the yearly, general, and country meetings of the Royal Agricultural Society, and, in short, at most agricultural societies, you will find this subject discussed, and correct views on it most strongly and urgently recommended, and instructions given to the judges not to take into consideration the fatness of animals in awarding prizes to stock intended for the purpose of breeding.

In the face of these instructions, what is the general result? Why, that year after year, and meeting after meeting, the premiums are still given to a most unnatural, and (to breeding stock), very injurious fatness. Fat is sure and certain to carry away the palm whenever placed in competition against rational and fitly-fed animals of every class and description, and that are in a natural and much safer condition for breeding, both as regards themselves as well as their produce, but that are not made almost immovable—most unwieldy, by their joints and sinews being, as it were, rendered of no effect by useless and injurious fat. Bear in mind that I confine my observations wholly and solely to breeding stock, and if the judges would, in awarding the premiums, take into consideration the aptness and fitness of condition for breeding, combined with shape, make, and quality, and give these their proper and right, and all-important place (even to the

discarding of overfed breeding animals), they would be doing greater, truer, and stricter justice to the intentions and objects of the society, and confer a much greater benefit on those engaged in the breeding, not the fattening (for they should be viewed and considered separately), of animals, than by encouraging, as the awards mostly do, the great and injurious evil of feeding breeding stock so over and preposterously fat. A BREEDER OF STOCK.

The views expressed in the above communication, from the London Agricultural Gazette, we think are strictly correct, and are highly worthy of the consideration of the judges, on breeding animals, of the agricultural shows in this country. To bestow premiums for the waste of food in "stuffing a beast to repletion," and wearying it under "a cumbrous load of bloated fatness," whether intended for breeding, or the shambles, is an utter absurdity, as there can be no ostensible object in such a course, except in gratifying the exhibitor with the vanity of knowing that he has the honor of raising the fattest calf, and that the calf has the honor of being fattened by an ambitious man. See remarks on this subject at pp. 117, 118, of the current volume.

EXPERIMENTS AMONG FARMERS.

ALL those who lend their assistance in filling the columns of your journal are directing their best energies to promote the great experiment now being tried among farmers, whether an increased taste for reading agricultural works (that is, what ignorance denounces as "book farming"), will produce an improved condition in the cultivation of the soil, and as a natural sequence, an improved condition of the minds of the cultivators that will promote and increase the refinement, necessary to promote the happiness of the human family.

For my own part, I am so far satisfied with the result, that I fully believe we are doing good. We are trying a great "experiment in feeding." Feeding the intellect of a much-neglected mass; and we ought to be careful that we do not surfeit it with indigestible food. On this account, I was much taken with Mr. McKinstry's article in the August, 1847, number of the Agriculturist, upon the necessity of experimenters being very careful in making experiments, and still more careful when they publish an account of them.

Nothing but the clearest and most comprehensible result and plain benefit to the man himself, will ever induce one who has all his life long carried a stone in one end of the bag, to balance the bushel of corn in the other, to adopt the improved system of discarding the stone, and dividing the corn into equal parts.

SOLON.

Crown Point, Ia., July, 1848.

MORE FACTS ABOUT LIMING LAND.—Batten sandy soils often admit of profitable cultivation after lime has been added; and clay soils, in which little or no lime can be detected, are often entirely changed by the addition of lime. So, also, it may usually be laid with profit upon soils formed from decaying granite, while its action is frequently less sensible when applied to soils of decayed trap. This is chiefly because the granite contains little lime naturally, while the trap rocks, for the most part, abound with it.—*Professor Johnston.*

THE COTTON CROP.

THE Ides of July being passed, and the Calends of August approaching, at which time we *great men* of the cotton bags always issue our circulars, stating to the planters what they must make in the way of a cotton crop; or, in plain language, the 1st of August is at hand, when the commission merchants issue their circulars, and pronounce upon the growing crop. I have seen none of their circulars as yet; and, unless, as an exposé of commercial matters, they will not be worth seeing by the planter. They are equally worthless to the merchant and manufacturer; because there is no planter between "heaven and earth," who can do more than *guess* at his crop, and you might as well guess as any other one who is only a mile off. The estimates of the commission merchants can only approximate to the truth, from a knowledge of prior crops and prior estimates. The reports of planters themselves are of no avail, for the reason that a few weeks of favorable or unfavorable weather may change a prospect full 25 per cent.—taking extremes.

As to my own crop of *cotton*, I cannot make so much as last year, for the reason that I have less cotton planted, and more to divide the yield. As to the crop of this neighborhood—and we are usually larger growers than four fifths of the state—I doubt if the yield can be so large, because last year was more than usually fine, and this year more than usually unfavorable. I never saw so much grass generally; and I know of but one brag crop, unless a prospect of hay should be worth bragging about, and then I might as well brag a little myself.

I make no estimate yet; I believe there is land enough in cultivation, and hands enough employed to make full three million bales. I believe it to be very doubtful, however, whether we make three millions for many years to come, because the cotton region is so extended that the casualties are too great. For instance, about 30 or 40 miles west of me, there was so much rain a month since, that the crop, in general, was lost. Some 20 or 30 miles east of me, there was too much rain; in other parts it was too dry; near me half of the cotton has the rust; below, the worms have begun. At present, the drought following a very rapid growth, threatens a loss of all the July crop of forms by shedding. I doubt whether the whole crop of the United States will reach two and a half millions bales this year.

My own entire crop promises to be the best for many years. The excess of corn will more than counterbalance the deficit in cotton. Last year's crop of pork was short, and I had to buy this year, *owing to my hogs dying by eating peas* [Dr. Philips means cow peas—Ed.] whereas this year, my prospect is good for selling enough to pay this year's purchase. My sheep and cattle are doing better than usual. The dry weather, in April and May, opened out the swamp earlier than for years before. My crop of oats, though quite light, is better than last year, especially as I had corn to waste. I think I may be able to kill about 800 pounds of pork per hand, and have the largest stock of hogs for 1849, I have ever had, and feeding as I do, warrants any one in such a calculation.

I feed now full a peck of corn every day per hand, with a fine pasture of one to one and a half acres per head of hogs, sheep, horses, and *milk* cows. Quere—If *milk* is correct when applied to the liquid, is it incorrect when applied to the animal that yields it? Why therefore do some use *milk* for the one, yet stickle in using any other than *milk* as applied to kine? I only throw this out by way of a chance.

M. W. PHILIPS.

Edwards, Miss., July 19th, 1848.

BUTTER FOR THE NAVY.

I RECEIVED, a day a two since, the following letter written by Mr. J. J. Hawley, of Binghamton, which I endeavored to obtain previous to the publication of the Transactions of the New York State Agricultural Society for 1847. The facts are important, and if anything were wanting to make the proof complete, as to the capability of a great portion of our state for supplying butter, that will stand the test of tropical climates, the observations communicated by Mr. Hawley are abundant.

B. P. J.

Agricultural Rooms,
Albany, Aug. 2d, 1848.

"The idea that no butter made out of Orange county, will 'resist the action of tropical climates and preserve its qualities for years,' is an utter absurdity. I think that not one third of the butter sold in market, as 'Orange county,' is made in that locality. That county has, during ten years past, sent out hundreds of emigrants to the counties of Sullivan, Delaware, Chenango, Broome, Tioga, Tompkins, and Chemung, and perhaps others, in the state of New York, who have continued the manufacture of butter for market, and who, at the end of each season, have been in the habit of transporting their butter in wagons across the country to the different points of shipment, in Orange county, and there shipping it as 'Orange county.' Many of these persons had, for years before emigrating, regular purchasers in New York for their butter, who, it was understood, were to take their product each year when made, and pay the highest market price for it. These relations were, in many instances, continued for many years previous to their emigrating from Orange county, and many now continue them without the least objection being made to the quality of the butter.

"The term, 'Orange county,' seems to be misunderstood. It does not mean (as I understand it), the locality where made, but a peculiar method of manufacture. The neatness and cleanliness of everything about the dairies, the churning of the *milk*, instead of the cream, and the attention to the quality and quantity of salt used, are their principal peculiarities. The churning of the milk, I deem essential to butter intended for long voyages. It gives it a peculiar firmness and fineness of texture and wax-like appearance when fractured, which, butter made by churning the cream, seldom or never has. These peculiarities can generally be detected by the eye. There is also a cream-like flavor to milk-churned butter, which I have never found in butter manufactured in a different manner.

"I believe the highest price paid for dairies in New York, for several years past, has been paid for several dairies from Chemung county. Being at the table of a well-known gourmand, in New York, in the spring of 1847, I remarked the very fine quality of the butter; he replied that such butter could not be made out of Orange county. The conversation continued till, finally, the original firkin was brought up, when I found it was branded *John Holbert* (premium), (Mr. Holbert resides in Chemung county, and took the first premium at the State Fair at Saratoga, for the best butter made in June). This gentleman told me, he had his supply of butter of this dairy for several years, at an extra price of 33 cents per pound, of a particular grocer, who alone sold it.

"The opinion of the gentleman, who has the charge of the butter department of the United States Navy, 'that no butter, made out of Orange county, will resist the action of tropical climates,' I know to be erroneous. A dairy, made in this county (Broome), has been sent abroad much of the time for ten years past. In 1839, it was sold in St. Croix, to the government, for 75 cents per pound. In 1840, it was sold in New Bedford, and went a whaling voyage. I saw some of it after the expiration of nearly four years from its manufacture, *as sweet, and in as good condition*, as when made. The same dairy has since been sold in New Orleans, in Natchez, and Mobile, and there has never been any complaint as to its quality. I shipped some butter that was the product of this county, to Canton, in 1846, which, under very disadvantageous circumstances, opened as fresh as when made, and proved so good, that the shippers have each year since applied to me for butter, for cabin stores for their ships. I took up the original firkins, and procured a quantity of small white oak kegs, which would contain from 15 to 25 pounds, each, and repacked the butter, selecting the best from a large quantity. These kegs, when filled, were put in very large hogsheads, and the space filled with rock salt, and placed in the hold of the vessel. This butter was sold about eighteen months after its manufacture in as good condition as when made. The small kegs were not used in reference to the preservation of the butter, but merely for convenience of retailing at Canton.

"The exportation of butter for the supply of the different cities, that are along the southern coast of Asia, is probably destined to be a very considerable business. The entire supply for the immense cities in the possession of the British East-India Company, being derived from Europe (mostly from Ireland, but some little from Holland), is usually purchased at home at a price which would fully pay an American shipper at its destination.

"The relative proportion of our county, that is adapted to the production of the finer qualities of butter, is probably as small as any other article of general necessity; but much of the southern tier of counties and also of the central and northern portions of the state of New York, will, when well cultivated, produce the variety of grasses necessary to give butter the peculiar flavor and aroma of Orange county, when properly manufactured.

"The emigrants from Orange county, before alluded to, all agree in opinion, that as good butter can be made in their new localities, as in Orange county. Minisink is cited, in the circular, as being

the locality producing the best butter in Orange county. A Minisink dairy woman, in this vicinity, who had the reputation for many years of being the best in that town, made her first dairy here, of about 60 firkins, last season, and says it was the best she ever made. All the Orange county emigrants agree in opinion (and many of them are persons of much experience and close observation in their business), that in favorable situations, they can produce as much butter, and of as good quality, as in Orange county."

ROUGH NOTES BY THE WAY.—No. 1.

On a recent tour through New Jersey and a portion of Delaware and Pennsylvania, I met with a few facts and incidents, which I thought might be interesting to your readers, and have a tendency to elicit inquiries that might lead to results beneficial to other parts of the country, which, for want of information, lie in a dormant and unproductive state. I intended to extend my journey to the extreme end of New Jersey, to Cape May; but finding the weather very warm, and that I should have to travel through a very sandy, and, in some respects, an uninteresting country, although I have been told that some part of it is highly cultivated, I concluded to defer my visit to that region till some future period.

I shall commence with Salem, in New Jersey, situated on Salem Creek, $3\frac{1}{2}$ miles from Delaware Bay, and 37 miles south-westerly from Philadelphia. Through this stream, steamboats and other vessels pass from the waters of the Delaware up to the town, where I spent a short time with Col. Robert G. Johnson, from whom I obtained the following statistics of Salem county for the year preceding June, 1846, which he collected with much industry, and at considerable expense, and communicated the same to the New-Jersey Historical Society, and which I believe were published in their Proceedings, in 1847:—

EXPORTS OF SALEM COUNTY, N. J.

"I send to you, for the information of the Historical Society of New Jersey, the *Statistics* of the estimated *annual exportation* of the surplus articles produced by the labor and care of the people of the county of Salem.

I will here remark that the county of Salem contains about 300 square miles, and the population, by the last census, was ascertained to be 16,024.

Grain, Feed, &c.

Wheat, - -	68,919 bush. at 90 cents,	\$62,027.10
Corn, - -	386,254 " 50 "	193,127.00
Oats, - -	174,574 " 31 "	54,117.94
Buckwheat, -	6,000 " 60 "	3,060.00
Rye, - -	2,322 " 60 "	1,392.00
Hay, straw, husks, broom corn, - - -		28,400.00
		\$342,124.04

Meat from Live Stock.

Fat cattle, 880 head, average weight per head,		
575 lbs. at \$5 per hundred, - -		\$25,300
Pork in the hog, 600,000 lbs. at \$5, -		30,000
Calves, 4,450 head, at \$4.50 per head, -		20,025
Sheep, 4,000 head, at \$2, - - -		8,000
		\$235,325

Grass Seeds.

Clover, - - -	500 bushels, at \$5.00	-	\$2,500
Timothy, - - -	600 " " " " "	2.50	1,500
Herd's grass (red top), 30,000 bush., at 45 cts.			13,500
			\$17,500

Fruits.

Apples, plums, peaches, 50,000 bushels, taken from Salem wharves, - - -			\$17,500
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Truck,

In which the people estimate garden and field vegetables; also they have included in their sales fruits of different kinds. This was from the principal truck growers from the townships adjoining the river, - - - **\$50,475**

Forest.

Ship plank, - - -	450,000 feet, at \$20	-	\$90,000
Sawed scantling, - - -	315,000 " " " " "	15	36,750
Cord wood, - - -	12,100 cords, at 3½	-	42,350
Staves, - - -	35,000 " " " " "	20	700
Hoop poles, - - -	290,000 " " " " "	35	7,250
Bark (ground), - - -	280 tons " " " " "	22	5,720
Market baskets, - - -	18,000 " " " " "	32	4,960
			\$187,730

Ships Built.

Stephen Baldwin, - - -	650 tons.
Shenango, - - -	600 "
Burlington, - - -	600 "
Watagee, - - -	450 "

Barques.

Sarah Hand, - - -	350 tons.
Pons (a slaver), - - -	250 "

2,900 tons, at \$35 per ton
\$101,500

Steamers.

John McKeim, - - -	300 tons.
Erickson, - - -	100 "
Empress, - - -	140 "
Cumberland, - - -	100 "

640 tons, at \$35 per ton,
\$22,400

Schooners.

Monmouth, - - -	140 tons.
Emma Louisa, - - -	120 "
Forrest, - - -	100 "
Barge, - - -	140 "
Sloop Ann, - - -	60 "
Do. - - -	30 "
2 at Pennegrove, - - -	200 "

790 tons, at \$30 per ton,
\$23,700

7 Canal boats, - - -	700 tons, at \$15 per ton,		\$10,500
			\$158,100

These vessels were built within the last six years (as I have understood), and as it takes much time in preparing the materials, the labor of building them must necessarily render a length of time unavoidable, so as to run into different years. The whole amount of their market value as above, being divided by 6, the number of years, makes the annual surplus - - - **\$26,350**

There are now on the stocks, building, 4 schooners, 2 sloops, 5 large canal boats (largest size), and 1 line boat of 60 tons.

Furs and Wool.

Furs—principally sent to New York, - - -	\$7,500
Wool - - - - -	5,500
	\$13,000

Leather, Soap, Candles, &c.

Leather, - - - - -	\$13,000
Soap and candles, - - - - -	4,460
	\$17,460

Castings, - - - - -	5,000
Scrap iron, - - - - -	1,000
Feathers and rags, - - - - -	1,000
Cider, vinegar, and bricks - - - - -	640
	\$7,640

Carriages, - - - - -	3,000
Grain-threshing machines, - - - - -	923
Oil of sassafras, - - - - -	1,000
Sumac, 50 tons, at \$35 per ton, - - -	1,750
	\$6,673

Total exports - - - - - **\$769,777**

With considerable labor and expense I have obtained the foregoing. I regret that I could not get the truck and fruit growers to discriminate the produce of the different articles raised by them, but I am inclined to think that the estimates are fair and reasonable. I regret that I could not in any way ascertain the value of the different kinds of poultry exported. From what I have seen on board the steamboats from our town, and have heard from the two upper townships, which send a great proportion by wagons to Camden, I am inclined to believe that we might safely set down our exportation at \$20,000. ROBT. G. JOHNSON.

Salem, June 20th, 1846.

I would remark that most of these products were obtained by the actual labor of the inhabitants of the county, without the aid of steam, or water power, with the exception, perhaps, of one or two sawmills. Nor is all the produce of the county enumerated in the above tables, as I have found a case, in which no mention was made of a large number of fruit trees that sold for a considerable amount, by Samuel Reeve, a worthy member of the society of Friends. On asking him why he was not represented in the statistics, referred to above, he replied, that he did not wish to make too much show of his business. His nursery, though large in extent, is not so much so, in its variety of trees, having only 47 sorts of apples, 8 of plums, 5 of pears, 8 of peaches, 3 of apricots, and 5 of cherries. I remarked that his assortment was not large. "I know it," said he, "but when I sell a tree, I intend it shall bear the kind of fruit I sell it for." He made no allusion to other nurserymen; but, from some experience of my own, I am led to believe that trees purchased have sometimes been taken up promiscuously from the nursery, and the labels tied to the bundles, corresponding with the order; for, after waiting patiently several years for the fruit to grow, it turned out to be anything and everything but the varieties they were sold for.

This, to a man who has but one life to live, is exceedingly discouraging and vexatious.

The apple trees, which are only three years from the seed, and four years from the bud (seven years in all), are now mostly loaded with beautiful fair fruit. Friend R. says that no one ever need lose a tree, if properly removed. As he has promised to write an article for the *Agriculturist*, I will mention only one of his methods, which is this: Some years ago, he discovered, that after leaving some trees, through the carelessness of his men, by exposure to the sun several days, they not only wilted, but had become partially dry. He then put their roots into a pool of water near by, went from home, and thought no more of them for some time, when, on his return, he found that the buds had swollen, and the leaves had begun to put out. These trees he planted out, and none, he said, ever did better. He showed me a large number of trees which he transplanted, budded, and grafted, last spring, and scarcely one died in the whole lot.

There is also another source of profit, in this county, which is not enumerated in the proceedings referred to above. Friend Reeve overflows a meadow every winter, from which he obtains a large amount of ice, and sells, not only to the inhabitants of Salem, but sends it, by steamboats, to Baltimore and elsewhere. He lives four miles from the town; but letters will reach him if addressed to Salem, Salem county, N. J. Should this notice meet his eye, I hope his modesty will not be offended, for I might in justice have added much more. I deem thus much due for the kind attention bestowed on me by his lady as well as by himself.

Along the winding and serpentine banks of Salem Creek, there are large tracts of meadow, which have been reclaimed from the tide, by dyking and ditching, that produce excellent crops of grass; but as I expect a particular account of the manner in which these lands have been drained by Colonel Johnson, I forbear to say anything further, than that they are worth \$100 per acre, notwithstanding their liability to be inundated by the breaking of the dykes. Two large tracts are now being repaired, from this cause, one at an expense of \$16, and the other at \$21 per acre. SAMUEL ALLEN.

Salem, N. J., July, 17th, 1848.

COOKED FOOD FOR FATTENING CATTLE.—Boiled turnips, or steamed potatoes, were found, by some experiments made by Mr. Thomas Harkness, of Dumfries, in Scotland, not to fatten cattle so well as those roots given raw. Even the advantage derived from oil cake did not compensate for the expense of cooking those roots. Linseed, however, when crushed and boiled to jelly, and mixed warm with boiled turnips and chopped straw, has recently been found to fatten cattle, and other stock, profitably and very fast.

OIL AND HONEY PRODUCTIVE OF HEALTH AND LONG LIFE.—An old Roman, in his hundredth year, being asked by the Emperor Augustus, how he contrived to attain so great an age, replied, "By nourishing my inside with honey and my outside with oil."

RURAL PASTIMES BY SOCIAL LABOR.—No. 4.

Corn-Husking Frolic.—In every state in the Union where Indian corn is grown, there is no rural pastime that is looked forward to with more certainty of its regular occurrence, or is enjoyed with a keener relish, than a true "corn-husking frolic." In the northern and eastern states, and, in fact, wherever free labor is universal, the farmers eagerly join in the sport; or, when among the more opulent, they decline the amusement for themselves, there are none, I believe, who do not encourage it among their working men, with liberty to invite their friends to help husk the corn, and partake of the good cheer that always follows.

In the newly-settled districts, where "working bees" form part of the system of rural economy, these social labors are necessary, owing to the difficulty of obtaining hired help. These, the members of each little community agree "to take around;" that is, they will work for, and with, each other, till the hay is got in, the harvesting over, and the corn housed, or what-else-soever must be finished speedily, requiring many hands to work together. In these cases, corn husking assumes a different form from that of a simple country frolic; though the main features are the same, the character is essentially changed; for a community of interest, as well as brotherly feeling, actuates them, and while they work with a right good will to-day, they expect the same kind turn will be done for them on the morrow. The women, too, often make part of these companies (in some districts, always), which gives additional interest, while it softens the rougher features of the scene; for what man will give way to, or permit in others, warm, or improper conversation and manners, in the presence of his wife or sisters? Or who does not conduct himself with more gentleness "when cheered by a smile from the girl of his heart?" At least, so it is in this happy country, where the respect universally paid to the female sex, is often cited as a national characteristic, which I trust will last as long as our national prosperity.

The time for husking the corn necessarily varies in different places, being earlier in the south, and later as we advance to the north; and it is generally delayed, or a little hurried, to take advantage of a full moon in our delicious autumnal weather. When the corn is brought in, the wagon loads are hauled to some convenient spot near the barn, and the corn deposited in two long heaps. If the weather is unpleasant, and the crop not too large, it is put on the threshing floor in the barn. This arrangement accommodates the workers by making one large receiving place between the heaps, equally convenient to all, as the company seat themselves on the outer sides of the heaps, all facing the space in the middle, into which the ears of corn are tossed when freed from the husk, which, at the same moment, are adroitly thrown behind. The operation is very simple, being nothing more than pulling off the covering, by holding the ear of corn firmly in one hand, stripping it down with the other, and snapping it off with the end of the stalk, close to the cob. A little practice gives great dexterity, and one of the best-relished parts of the amusement is to watch the awkward motions of beginners, who often exert as much strength as need be used to fell

a tree; and often inflict painful, though not very serious wounds on their fingers, with the wiry edge of the husk, that cuts like a fine saw.

There is usually a good deal of ceremony, and a little manœuvring, in placing themselves, in order that those most agreeable to each other may sit together; though it sometimes happens that a pretty coquette would take her place on one side of the heap, when her despairing swain was on the other; but, in all such cases, by some strange accident, it happened that she was *exactly* opposite to him, and her father and brother occupied the seats next above and below her. It happened, too, that some staid matron, or spindle-shaped old maid, was his neighbor—but, of course, it was all chance! Nobody could suspect *her* of having a hand in the matter, when she looked so unconcerned and innocent.

Then the omens are to be attended to, and "wo worth the wight" who gets a smutty, or barren ear in his hand! He must do whatever the company choose to require of him. If he can sing, they are sure to forget it, and insist on having a tale; but if he has a voice like a crow, or a bull frog, nothing but a song will satisfy them, and sing he must! A blood-red ear fortells the arrival of a favored lover, but of course none such is expected! A crooked ear prophesies a thief in the corn crib; while one on which there are several kinds intermixed, is an undisputed omen of a speedy wedding. There are sweet voices, too, among the women, and many a cheerful song finds an answering melody in the hearers' hearts; and the joyous, merry laugh, that makes the welkin ring.

Near our large cities, and among the opulent farmers, this good old custom is fast fading away, and in a few years, in the Atlantic states, at least, it will disappear entirely; for, with the wealth acquired by the patient industry of our forefathers, habits of greater refinement are induced; and the increasing population makes the employment of the poor a virtue in the rich. Therefore, the necessity of social labor, and the simplicity of manners that ought to characterize life in the country, cease to exist; and as they depart, they carry in their train, and leave only the pleasant memories of these, the sports of their youth to the old; and to after times, nothing but some record, slight perhaps as this, of their having been among the customs of the hardy pioneers in the rapid march of improvement in our glorious country.

In the southern states, these merry-makings are confined exclusively to the colored population. When the corn is ready to be brought in, the news spreads like wild fire that on such a night there will be a "husking frolic," at Mr. —'s. At the appointed time, the horn is blown, and the negroes come trooping in, often from plantations five miles distant. The corn is thrown down near the barn, in one long heap, and the negroes stand round it and work. One is always invited to sing for the evening, if a negro sits down he inevitably goes to sleep; and without the songs they would stand idly to talk. They keep time with the tune, working quickly to a brisk, and slowly to a sad, one; and roar out the chorus, "Round the corn, Sally," or "Clear the way when Sambo come," to impromptu songs with which they have no sort of connexion; while the singer, like Timotheus of old, is "placed

on high," on the top of the heap, beating time to his own melody by knocking his elbows on his sides, clapping his hands, and making a noise in any other way his fancy may suggest.

When the work is done, they adjourn to the supper, which is spread on boards supported by barrels, under a shed, or in the open air, near the kitchen, or at the quarters, as may be most convenient; and however many there are present, there is enough for all to feast upon; and well dressed, too; for as a jolly fat cook once told me, in answer to a remark about the great quantity prepared, "Bress your dear heart, Ma'am, it's ollous so; why massa have a best huskin' frolic supper all over de country! Neber stingy 'bout dat;" and certainly the profusion did credit to his liberality. A sheep had been killed, and the whole dressed in various ways, roasted, boiled, and a huge pot of soup; bacon and cabbage, potatoes, apples, great loaves of hot bread, and baskets of "light cake" and nice sweet buns.

These frolics always end with a dance, kept up till midnight, and not seldom till morning, not much to the advantage of their master's work the next day.

E. S.

Eutawah, July, 1848.

SPECKLED DORKINGS.

THE statement that these birds, when thorough bred, are less hardy and prolific than when an admixture of blood is admitted, is no mistake; and was not published without care having been taken to ascertain that it was confirmed by the experience of others, who have kept the pure speckled Dorkings on a large scale, both for private consumption and for the supply of the market, and who give, as their result, that the cross is more profitable. Of course, the circumstance of their pining away and dying just when attaining maturity, must be the exception, instead of the rule; otherwise, the breed would have long since been extinct. I have merely said that they are apt to do so. Their constitutional weakness developed itself, with me, in this particular form, which will vary according to circumstances and situations. Others complain that they are soon worn out, and prematurely overtaken by old age. Indeed, I have never known a pure Dorking hen to be good for much, either in the way of laying or sitting, after her second season. All this shows some inherent defect. Good judges have thought that I have written only too favorably of the speckled Dorkings; but I agree with "Anon," in having a liking for them, and am glad to hear he has managed them so ably and successfully. The precautionary and remedial measure he has adopted, of introducing a fresh and well-selected cock bird or two, into the walk every second or third year, at furthest, is the very best that can be adopted; but it confirms, instead of refuting, my expressed suspicion, that the cocks of this race are deficient in vigor. For those who are indifferent about seeing the full complement of five toes, provided they can retain the other valuable points of the Dorkings, there is a fine variety, called by the principal London dealers, the "Surrey fowl," of even larger dimensions and more vigorous appearance, a trial of which I should recommend strongly.—*Correspondent in London Agricultural Gazette.*

Ladies' Department.

CAUTION IN THE CHOICE OF CULINARY UTENSILS.—No 3.

My next object is to examine the vessels of pottery ware, and consider what kinds of these may be used with impunity, in the preparation of pickles and jams. Vessels of this description are generally glazed, or covered on the inside, and sometimes on both sides, by two distinct methods; in the one case, with oxide of lead (litharge), or some preparation of lead; and in the other, with common salt. It hardly need be said, that, in domestic economy, the latter of these should alone be employed.

The lead glazing can readily be detected, as it is characterized by a very smooth shining surface, precisely as if the vessel with which it is covered had been well varnished. The salt glaze, on the contrary, has but little lustre, and all the roughness of the clay beneath it can perfectly be seen.

Pickles, jams, and all other substances having any acid re-action, or any tendency to such action, ought never to be placed in contact with a lead glaze; for so surely as they are, so surely will they become contaminated (pickles especially), with soluble salts of lead, from which the well-known effects of poisoning by lead will ensue.

The ordinary vessels known by the name of "baking dishes," should never be employed for the purposes they are designed; for their glaze contains a very large proportion of oxide of lead, upon which all fatty substances have a decided solvent action, and consequently is attended with injurious effects. Fruit pies, tarts, &c., ought not to be baked in such dishes, for the acids the fruits naturally contain have a very energetic action on such glazes, especially when they are exposed to them, at the boiling temperature, for a considerable time.

Hence, all such vessels should be discarded from household economy, more especially at the present time, when salt-glazed vessels are cheaply and abundantly obtained. It is true, they are a little more expensive; but what person, who thought not only of the preservation of his own health, but that of his family, would hesitate in expending only a few half dimes more in the purchase of wholesome utensils for domestic use? And it must be considered that, although a single dose of lead, or copper, in the small quantities it is taken off from vessels used in cooking, is not by itself mortal, yet the daily continuance of such a system of poisoning, would tend ultimately to the most serious results.

C.

HOW TO MAKE MUSHROOM CATCHUP.—As soon as the mushrooms are brought in, free them from dirt, and cut off the roots; break them up, and put them in thin layers into a stone pot, sprinkling each layer freely, but not heavily, with fine salt. Let them lay twenty-four hours; then mash them well with the hands, or a wooden spoon; wrap them in a coarse cloth, and press the liquor well out. After this, put them into a preserve kettle over a slow fire; boil gently, and skim clean, as long as any scum appears. Have, in readiness, a stone pot and the following spices, about one quarter of an ounce of each, to every quart of the liquid:—Race ginger, cut in thin slices; cloves, mace, nutmegs, and whole black pepper, broken coarsely in a mortar;

pour the boiling liquor on these, stir well, and cover it closely until quite cold. Then bottle up, putting into each bottle a clove of garlic, and divide the spices equally among them.

The catchup may be used in three months, but is better with age; when it will form a delicate condiment either for fish or flesh. E. S.

HOW TO MEND CROCKERY WARE.

TAKE care that the fractured edges of the vessel are not snipped; nor suffered to contract dirt; for if a dirty dish, or cup, be broken, it is almost, but not quite, a hopeless case; wash it gently and thoroughly with soap and water; rinse with soft water, and let it dry without wiping. The pieces should then be fitted together, as soon as possible, and kept in their places by winding firmly over the bowl, or dish, a strong thread, or a piece of twine; put the broken article into a boiler, an inch or two larger each way, and fill them both with sweet, cold skimmed milk; set the boiler over the fire, and boil for ten or fifteen minutes; take it off, and let it stand till quite cold, when the string, or twine, may be cut, and the article washed in warm water.

If the above directions have been carefully attended to, the vessel will be found firmly and permanently united, so that it cannot again be separated at the same place, which looks only like a crack. This is also an excellent method of preventing cracks from becoming fractures, provided the same process of closing by winding the thread be observed.

India, French, and I may add, our Philadelphia porcelain, are too close-grained and hard, to be mended in this way. E. S.

Eutawah, August, 1848.

"**TRAIN UP A CHILD IN THE WAY HE SHOULD GO.**"
—"That's right—slap your mother's face—naughty ma!" "Pull John's hair—so you may. See there he has a handful!" "Pull pussy's tail—how she mews—Pshaw! it don't hurt her!" "He's sharp to look out for himself—how cunning he is in getting the best one—trust him to take care of number one."
"He's a sly little rogue. Was not that a real trick? Willy will know how to get out of a scrape." "What a story that child has made up—she'll make a first-rate romance writer."

Look at children reared under such tuition as this, after they had ceased to be "funny, because they are so little."

Lay it down as a rule, never to smile, nor in any way show approval or merriment, at any trait in a child which you should not wish should "grow with his growth, and strengthen with his strength."
—Miss E. C. Allen.

A FLOWERY MARRIAGE.—Married at Evergreen, parish of Rapides, by the Rev. J. P. Bellier, Mr. Charles H. Flower, of West Feliciana, to Miss Clara H., daughter of the late Gen. H. S. Sprigg, of the former place.

We have never seen so many happy coincidences as the above notice contains. A *Flower*, joined to a *Sprigg*, of *Evergreen*, must certainly promise a delightful future to the happy combination whose path, we hope, may be strewn with *Flowers*, and shaded only by *Spriggs*, of *Evergreen*.—N. O. *Delta*.

Boys' Department.

FANCY RABBITS.

I HAVE, as you desired, made drawings on the block you sent me of two "fancy rabbits," one with a true, the other with an imperfect "lop," or carriage of the ears; though, in all else, they are nearly correct specimens of what a fancy rabbit should be; and in further compliance with your wishes, and to save the repetition of answering, by the pen, the various inquiries addressed to me, I will give your juvenile readers what information I have, relative to the rearing, breeding, and general management of these little animals, together with such conventional points as are insisted upon, by the several London and other rabbit clubs, as necessary to constitute excellence, and upon which their decisions, in awarding premiums, are made.

While in London, I visited several of the best rabbitries there, and also had an opportunity of being present at the semi-annual meeting of the

friendly rivalry and social intercourse, their practice making good their motto, *Quod tibi vis fieri fac alteri*. He congratulated those around him on the increasing interest in the subject, manifested by the continued accession of members to their society, and the visible improvement made in the animal itself. Indeed, so close had been the competition on the present occasion, that the judges had been nearly five hours in making their awards, and during the time, they had received a visit from the president of the Geological Society, who had expressed himself highly delighted with the beauty and perfection of the specimens before him.

The president further observed, that, before he proceeded to name the successful competitors, and exhibit their animals, he would briefly remark, for the information of visitors, who might not be familiar with the subject, that the leading properties of a good fancy rabbit were, length, width, quality, and carriage of the ears, beauty of the eye, excellence in form, richness and disposition of colors, with the greatest weight that could be attained by animals whose age did not exceed six months. We were, however, given to understand that weights stood lowest in the scale of excellencies, being considered rather a higgler's than an amateur's property.

The rabbits were now produced from their respective baskets, and put on the table, one at a time; and more beautiful animals of the sort I had never before seen. The president named the owner, the age of the animal, its length of ear, and other remarkable qualities, with the award made to it by the committee. Comments were now freely made, questions asked and answered, and a general conversation ensued as the rabbit moved up and down the whole length of the table, stopping every few steps to reconnoiter its novel position, thus affording every one the best possible chance of examination; after which, it was removed, and another took its place,



FIG. 80

"Metropolitan Fancy Rabbit Club," held in Trafalgar square, for the exhibition of the prize rabbits, to which the society's premiums had been awarded. I thought it a good occasion to see the best of their kind, and also to learn the more nice and difficult points of their breeding. At the appointed hour, in the evening, I drove to the place of exhibition; and was shown into a spacious, well-lighted room, filled with gentlemen of the fancy, who were standing in groups and conversing on their favorite amusement. At one end of this apartment were a number of small baskets containing rabbits, and down the middle, extending its whole length, stood a table, over which was stretched a green cloth. Hardly had I time to look around and see thus much, when the president, James Handy, Esq., entered, and took his place at the head of the table, and the members and visitors immediately seated themselves on either side. The meeting was called to order, and the president, in a short address, explained the object of the society to be improvement elicited by

and so on till all the prize animals had been exhibited, till some dozen or fifteen had passed in review before us, when I took my leave, promising to call on several of the members to whom I was introduced, and see their breeding stock. The toasts, songs, and healths, which followed, were duly recorded by the newspaper reporters, whom I left at the table, pen in hand. A handsome gold snuff box was presented to the president by the society, in acknowledgment of his services, and the valuable aid he had rendered them for so many years.

After seeing numerous collections, kept in all the various styles, from the handsome range of mahogany hutches to the second-hand packing case, or tea chest, I made my selections from the healthiest and most vigorous stocks I could find, having but little regard to length of ear, compared with the other properties; giving up this third favorite point, I made my purchases at much lower prices than I could otherwise have done, paying from ten to forty shillings sterling a piece for the young

rabbits I imported; whereas five guineas is not an uncommon price amongst the fancy, and 30 guineas have been paid for some remarkable animals by the more affluent breeders.

I made four several shipments, with various success, once losing the whole, at others only a part, and one lot of four all lived to cross the Atlantic. On my return, I fitted up a small apartment, adjoining my stable, with a regular stack of fifteen hutches, eight of them having small compartments, partitioned off as nests for breeding does, while the centre four, intended for bucks, have no such division. Under the whole, is a range of three hutches for young rabbits, when weaned. The breeding hutches are three feet long, two feet wide, and sixteen inches high. One foot is partitioned off as a nest box, or bed room, with a close door; a wired door forms the rest of the front. The floor should slant towards the back, above 1½ inches, with an opening of an inch the whole length, to allow the dirt to fall away. The hutches for the bucks are made in the same manner, with the exception of nest boxes, and are only two feet square. I feed them out of small tin cups, secured by a tongue riveted on the bottom of the cup, which slips into a strip of tin, called a "keep," nailed to the bottom of the hutch, and thus confines it to its place.

It is not at all necessary, however, to go to such expense, for I have seen as good a rabbit bred in an old dry-goods box, or a tea chest, in the corner of an out house, or in a small back yard, as I have in the handsomest rabbitries.

These rabbits are hardy and prolific, and are very delicate eating. My mode of feeding is not so economical as it might be, having no flour mills near me; so I confine myself to oats and roots in the winter, oats and clover, or any other greens, such as dock leaves, plantain, grass, carrot tops, beet tops, cabbage leaves, &c., &c., in the summer, —nothing green seems to come amiss to them. These substances, with a handful of hay, daily, is all I give them. To a full-grown rabbit, I feed one gill of oats, night and morning, together with a piece of ruta бага of about four ounces' weight, at each feeding; and at noon, a handful of sweet clover hay, the whole expense of which is about three cents per week. I allow my does to breed about four times a year, and to bring up from four to six young ones at a time, though the less the number, the larger and better the rabbits. When a doe is suckling, she will require three gills of oats per day, and as much green food as she will eat. Many breeders feed but one gill of oats per day, and substitute shorts, grains, or pea chaff, for the second meal of oats.

The properties of a good fancy rabbit, are these: long, broad ears, of a soft and delicate texture, hanging perpendicularly down by the side of the cheeks; a full, clear, bright eye, and a large dew-lap under the chin. The color must be in a mass over the entire back, and coursing well down on the haunch, breaking into spots on the shoulder, called the "chain;" while that on the back is termed the "saddle." The head should be full of color, extending over the ears, running round the eyes, on the cheeks, and over the nose; on the latter, from the form it should assume, it is called the "butterfly." The fancy rabbit, in shape, differs materially now from the engraving of the celebrated

Woushy, in the "Boy's Own Book," for the shoulder is deep and broad, the loins large, and the hind quarter round and full, as you will see from fig. 80.

It is no easy matter to breed such a rabbit as I have described; and you may rely upon it, that the same skill, observation, and attention are as requisite in breeding a perfect rabbit, as a perfect Short-Horn, or Leicester; and the lad who can accomplish the one, may be considered no mean rival of the father who has succeeded in the other. The difficulty will but give increased interest to the pursuit.

If any of your young friends, on reading this account of the fancy rabbit, should feel inclined to undertake its breeding, or be disposed to form a little club of their own, I shall be happy to render them any assistance in my power, and will answer any questions they may put to me, being aware that I have omitted much that will be necessary for them to know, and, when once engaged, would be interesting for them to hear. But we must not forget that we are children (though some of us may be, like myself, of a larger growth), and therefore we should not exceed the limits set apart by an indulgent editor for the instruction and amusement of his youthful readers.

Young rabbits, of the purest blood, may be purchased through the steward, or stock feeder, of a packet ship, at about \$5 the pair, when about ten weeks old, and he will be fairly and honorably dealt by, if he calls on any of the following breeders:—Mr. Bailey, keeper of the Star Coffee House, Crispin street, Union street, out of Bishopsgate street, London; Mr. Webster, Pleasant Place, Stamford street, Blackfriars' Road, over Waterloo Bridge; Mr. Payne, 142 White chapel, near the London Hospital; and I would name others, whose stocks are of the very first quality, but whose prices would perhaps be something higher. For instance, the president, Mr. Handy, Mr. Sutton, Mr. Duchenuc, Mr. Farmer, Mr. Cavendish, Mr. Bird, and Mr. Wynne, all of whom took prizes the day I attended the society's meeting. Mr. Wynne, on that occasion, showed a pair of beautiful black and white young does, which were purchased at five guineas; and three guineas were asked by another gentleman for a young "self-colored" buck.

"In the 'Boy's Own Book,' is quite a long chapter on rabbits and their breeding, from which much information may be gleaned, though not altogether free from mistakes. R.

Butternuts, Otsego Co., N. Y., July 20th, 1848.

THE AMERICAN HARE.—The American hare, usually known in this country under the name of "rabbit," is found pretty generally from Canada to the Gulf of Mexico. In winter and early spring, in the northern parts of the United States, its coat is nearly white, but in summer, it is of a yellowish-brown, with a whitish tail. This little animal makes a nest, or bed, of moss and leaves, in some old log, or hollow tree, whence it issues chiefly, but not altogether, by night. Though not so much addicted to knawing as squirrels, yet, its teeth being formed in the same manner, it probably resembles them in its food, eating various kinds of nuts, and seeds, as well as green herbs, and the bark of young trees. The American rabbit, from its shyness and timidity, is somewhat difficult to tame, and still more difficult to breed.

FOREIGN AGRICULTURAL NEWS.

By the steamer Acadia we are in receipt of our foreign journals to July 29th.

MARKETS.—*Ashes*, sales trifling, and at lower prices. *Cotton*, same as per our last. Had it not been for the agitation in Ireland, it would undoubtedly have advanced. *Pork* has receded 2s. to 3s. per bbl. *Lard*, a small advance, and quite scarce. Other provisions without change. *Wheat*, an advance of 3s. to 5s. per quarter. *Indian Corn*, an increased demand at better prices. *Rice*, 1s. to 2s. higher per cwt. *Wool*, improving.

The *Weather* was wet and unsettled, but the crops still promising, with the exception of potatoes, among which the rot had shown itself throughout Great Britain to considerable extent, and slightly in Ireland.

Money continues abundant.

Annual Show and Fair of the English Agricultural Society.—This splendid exhibition took place at the ancient city of York, on the 11th, 12th, and 13th of July. A friend, now travelling in England, who attended it, writes us, that there was an immense concourse of people present, and everything surpassed his expectations. Mr. Bancroft, the American Minister, was there, and made an excellent speech upon the occasion. The horses were superb and numerous. The Short-Horn cattle did not meet his expectations; all were too large, fat, and coarse. The Herefords, a fair show; the cows very good, the bulls only so-so. The Devons were choice. The hogs quite numerous, large, and fine. The small breeds very beautiful. The sheep, especially the long-wooled, in considerable numbers. He particularly admired Mr. Webb's Southdowns. Of the agricultural implements, our readers will form some idea, when they are told the catalogue alone makes a book of 226 pages. Several gentlemen delivered excellent lectures during the show, on agricultural subjects of different kinds. Prince Albert, and Prince George, of Cambridge, were present, and took a lively interest in the proceedings of the society; which, we are glad to learn, is annually increasing in number and usefulness.

Clucking Hens.—I have known one or two doses of jalap relieve hens entirely from a desire to sit; and, in my opinion, it is far better for the purpose than the cold-water cure. I have known English fowls to lay in three weeks afterwards.—*Gardeners' Chronicle.*

Garden of Mr. Koch, at Cologne.—A correspondent to the London Gardeners' Chronicle, says:—As an Englishman, fancying that we are the gardeners of the world, you may judge my surprise on visiting the garden of Mr. Koch, which is situated in the midst of this city, to find ourselves fairly beaten. This gentleman, who is a silk manufacturer, devotes his entire time to his garden, and may be said to live in it, so passionately fond is he of flowers. He showed me at one coup d'œil 30,000 Camellias, of which he possesses 700 varieties. After walking through a splendid avenue of Magnolia trees, we came to several beds of tree pæonias of 14 years' growth, consisting of 120 varieties, and at the end of the path was a fine specimen of the Paulownia imperialis. The azalea beds were no less remarkable, containing 300 varieties, and under glass were 15,000 cacti. To produce these varieties, he has an apiary of 400 hives, which yield 1,200 pounds of honey annually; and in the system pursued by him, the bees are never destroyed. To visit this gentleman's garden, in the month of May, would be a treat for your travelling readers, who may be pleased to know that such a garden is to be seen, and is willingly shown by its polite owner.

Vitality of Eggs.—It is impossible to fix any precise limit to the duration of the vital principle in eggs, since it varies, from the very first, according to the

vigor of the parents of the enclosed embryo, and, in the end, appears not to be suddenly extinguished, but to fade away into gradual powerlessness. Those who are anxious to secure a valuable variety, one chicken of which is worth a whole brood of ordinary sorts, will run all risks; after seven or eight weeks their chance is not utterly gone. Some of the chicks will be found dead in the shell, but those that are hatched, if they survive the first 48 hours—the great difficulty—are not afterwards more weakly nor troublesome than others. In the meanwhile, air should be excluded from the eggs as much as possible. It is best to set them on end, and not to suffer them to lie and roll on the side. Dry sand, or hard-wood saw dust (not deal, on account of the turpentine), is the best packing. But when choice eggs are expected, it is more prudent to have a hen waiting for them, than to let them wait for her. A good sitter may be amused for two or three weeks with a few addled eggs, and so be ready to take charge of those of value immediately upon their arrival.—*Ibid.*

How to Make Unfermented Bread.—After a considerable number of trials, I have adopted the following mode of making the unfermented bread which is now regularly used in my house:—I carefully mix, by sifting with the flour, first, tartaric acid, and next bicarbonate of soda, in the following proportions, viz:—To 14 pounds, avoirdupois, of flour, 8 drachms of tartaric acid, and 11 drachms of bicarbonate of soda. Once mixed, it will keep any length of time, and is always ready for use. Sufficient cold water to make it into dough, rather thinner than ordinary, and immediate baking in a quick oven (either in tins or not), is all that is required to make it into bread. The bread is of excellent quality, and is much admired by all who have tasted it.—*Ibid.*

Relative Value of Food.—Mr. Hyett, who is acquainted with the researches of previous writers, and himself a student in this very interesting subject, gives the following list of equivalents, in weight, as to the relative value of food:—

Wheat,	-	-	-	-	41 lbs.
Peas,	-	-	-	-	45
Barley,	-	-	-	-	54½
Oats,	-	-	-	-	55
Beans,	-	-	-	-	61½
Clover hay,	-	-	-	-	90
Ordinary hay,	-	-	-	-	100
Pea straw,	-	-	-	-	125
Potatoes,	-	-	-	-	200
Cabbages,	-	-	-	-	250
Carrots,	-	-	-	-	275
Oat straw,	-	-	-	-	300
Barley straw,	-	-	-	-	300
Beets,	-	-	-	-	397
Wheat straw,	-	-	-	-	450
Bean straw,	-	-	-	-	450
Green clover,	-	-	-	-	475
Turnips,	-	-	-	-	500

Composition of Wool and Hair.—Wool contains 2 per cent. of ash, human hair about 1. The latter consisted, in one case, of

Soluble chlorides and sulphates,	-	-	0.51
Oxide of iron,	-	-	0.39
Insoluble sulphates and phosphates and silica,	-	-	0.20
			1.10

The organic part is as follows:—

	Human hair.	Wool.
Carbon,	50.65	50.65
Hydrogen,	6.36	7.03
Nitrogen,	17.14	17.71
Oxygen,	20.85	24.61
Sulphur,	5.00	
	100.00	100.00

Editor's Table.

ADDRESS TO BE DELIVERED BEFORE THE STATE SOCIETY.—Hon John C. Spencer, of Albany, will deliver the annual address at the Show of the N. Y. State Agricultural Society, to be held at Buffalo, on the 5th of this month.

THE PORK TRADE OF THE WEST.—De Bow's Commercial Review, for July, contains some interesting tables of the pork trade of the western states. The number of hogs slaughtered during the years 1847-48, was 1,500,000—an increase of nearly fifty per cent. over previous years. The number slaughtered in Cincinnati alone amounted to 575,000. Only a small portion of this valuable product is exported; and four fifths of that sent out of the country, were shipped to the British colonies, South America, and the West Indies.

REMARKABLE GROWTH OF THE PAULOWNIA IMPERIALIS.—A correspondent to the "Alabama Planter," states that he has a tree of this species that has produced a shoot, since last spring, fifteen feet in length, containing leaves twenty-five inches wide!

THE AMERICAN ARCHITECT, comprising Original Designs of Cheap Country and Village Residences, with Details, Specifications, Plans, Directions, and Estimates of the Cost of Each Design. By John W. Ritch, Architect. New York: C. M. Saxton, 205 Broadway, 4to. Price \$3 per annum.

This work has reached its second volume, and, as we understand, has been liberally sustained. Although several of the designs are tolerably well planned and would seem adapted to the wants of many of our citizens, yet we would suggest that the editor, in future, would turn his attention to a cheaper, more convenient, and a more *Republican* class of dwellings, of which a majority of the American people, at the present time, are greatly in need. We would also suggest that there occasionally appear a handsome and commodious Grecian or Italian villa, a Swiss or purely Gothic cottage, with now and then, an appropriate design and estimates, for a school house, or village church. Some further attention might likewise be paid to the grouping of trees and shrubs, with reference to ornament and shade, and in giving a more pleasing effect.

THE PLOUGH, THE LOOM, AND THE ANVIL.—A monthly periodical has recently been commenced under this name, by John S. Skinner, Esq., late of the Farmers' Library, of this city, and formerly editor of the American Farmer. The time having expired for which he was engaged to conduct the Farmers' Library, at New York, that work has been discontinued, and the present one established, at Philadelphia, in its stead. "After thirty years of earnest endeavors, by all the means at his command, to improve the practice of American agriculture, and to raise it in the public estimation to a standard commensurate with its true dignity and importance,—and without necessity, during a great part of that time, to feel personally, much care about the pecuniary results of his labors,"—our veteran pioneer says, that he "now finds himself thrown, for the support of his family, exclusively on the patronage which his countrymen may be pleased to bestow on his future exertions in the same cause." The work is published by George B. Zieber & Co., of Philadelphia, at \$3 per annum.

DE LA ELABORACION DEL AZUCAR en las colonias y de los nuevos aparatos destinados a mejorarla, obra escrita en Frances por MM. Derosne y Cail, precedida de una noticia de los resultados ventajosos obtenidos con sus aparatos, no tan solo en Europa, sino asimismo en la isle de Borbon y en la de Cuba. Segunda edicion, corregida y aumentada con un apen-

dice que comprende la estracion de los azúcares de las mieles y la comparacion de los diversos sistemas de aparatos que pueden proponerse á las colonias; traducida al Castellano, ilustrada con notas, y aumentada con una memoria, presentada al instituto de Francia, sobre el analisis de la caña de la tierra de la Habana, por el Señor Don José Luis Casaseca. Habana: Imprenta del Gobierno por S. M., 1844.

We have received from Don José de la Torre, of Havana, the above named work entire, on the cultivation of sugar cane and the manufacture of sugar, which has been translated from the French and published by the Spanish government. To those of our southern friends who are conversant with the Spanish language, and are engaged in the cultivation of sugar cane, and are about to erect new sugar houses, or improve old ones, this treatise would be valuable. It probably can be obtained at Havana.

WATER-ROTTED HEMP.—Our fellow countryman Dr. R. J. Spurr, sold, at Louisville, Ky., last week, a portion of his crop of water-rotted hemp, for some of which he received \$210 per ton, and for the remainder \$205. It is an excellent article, and was readily taken up by the government, at Louisville, at the prices stated.—*Lexington Observer.*

CANE POLES.—Quite a business is driving in this article, if we should judge from the quantity passing this point. A day or two since, the steamer Colorado passed up with 7,000 on board; and the Paris on Wednesday, with near 10,000. They are cut on the islands and brakes on the lower Mississippi, and are shipped to the eastern cities, where they are manufactured into various articles, bottoms for chairs being the principal use to which they are subservient.—*Lou. Courier.*

HOOP POLES.—The sugar business is carried on to such an extent, at present, in Louisiana, that the demand for hoop poles is enormous, and, it would seem, that the supply is nearly exhausted. Our Louisiana woods have heretofore supplied excellent poles for hogsheads, but western poles are preferred, when they can be had at a reasonable price. Louisiana poles are seldom used for molasses barrels, being too tender. Our principal supply comes from Indiana. The poles are cut from the 10th of September to the 1st of March. This year, there appears to be a great scarcity, and it is difficult to say how the market will be supplied, as, owing to the demand for labor, the usual quantity has not been cut during the winter. During the last two or three years, the price, in this market, has varied from \$15 to \$22 per thousand, for barrel, and from \$35 to \$50 per thousand, for hogshead poles. Northern split hoops sell here at \$35 per thousand.—*Southern Paper.*

CONVULSUM.—Why would a horse be justified by Scripture in biting a man's leg?

Because "All flesh is grass!"

ORIGIN OF GEE AND WO.—Dr. Pegge, a curious antiquary, attempts to explain the origin of these words, so much in use with cartmen and drivers of oxen. He derives "gee," from the German word *geh*, which is the second person singular of the imperative of "gehen," to go.

"Wo," or "Who-o," he derives from the Danish word *ho*, which means stop. The French say "*ho-la*," "stop there." And in Shakespeare's "*As you like it*," we find the following: "Cry *ho-la* to thy tongue, I prythee, it curvets unseasonably." Among nautical persons, also, when a vessel is spoken at sea, it is usual to cry "Ship ahoy!" that is, "ship, stop." So in like manner, a little trading vessel, which the English term a "hoy," probably derives its name from stopping at different places to take in goods and passengers, when hailed from the shore.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, AUGUST 16, 1848.

ASHES, Pot.,	per 100 lbs.	\$5 25	to	\$5 31
Pearls,	do.	5 57	"	6 00
BALE ROPE,	lb.	6	"	6
BARK, Quercitron,	ton.	30 00	"	31 00
BEANS, White,	bush.	75	"	1 25
BEEFWAX, Am. Yellow,	lb.	10	"	25
BOLT ROPE,	do.	11	"	12 1/2
BONES, ground,	bush.	45	"	45
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	28
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2,000 lbs.	4 50	"	5 00
CODPAGE, American,	lb.	11	"	13
COTTON,	do.	5	"	9
COTTON BAGGING, Amer. hemp,	yard.	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	5 00	"	"	5 87
Fancy,	6 00	"	"	6 50
Richmond City Mills,	7 00	"	"	7 25
Buckwheat,	do.	—	"	—
Rye,	3 87	"	"	4 00
GRAIN—Wheat, Western,	bush.	1 00	"	1 25
Red and Mixed,	do.	87	"	1 00
Rye,	do.	70	"	71
Corn, Northern,	do.	65	"	73
Southern,	do.	60	"	65
Barley,	do.	52	"	60
Oats,	do.	35	"	40
GUANO, Peruvian, none in market, 2,000 lbs.	50 00	"	"	50 00
" Patagonian,	do.	35 00	"	40 00
HAY, in bales,	do.	40	"	45
HEMP, Russia, clean,	ton.	225 00	"	230 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	5	"	6
HOPS,	lb.	4	"	6
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 12	"	4 25
Pipes for Pumps, &c.	lb.	5	"	6
MEAL, Corn,	bbl.	3 37	"	3 50
Corn,	hhd.	12 50	"	13 00
MOLASSES, New Orleans,	gal.	23	"	26
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 87	"	2 12
Pitch,	do.	75	"	1 00
Rosin,	do.	85	"	95
Turpentine,	do.	3 50	"	2 75
Spirits Turpentine, Southern,	gal.	33	"	35
OIL, Linseed, American,	do.	57	"	58
Castor,	do.	1 50	"	1 70
Lard,	do.	60	"	65
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	1 00	"	1 02
Black eyed, 2 do.	do.	9 00	"	—
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	9 00	"	13 00
Prime,	do.	5 25	"	7 50
Smoked,	do.	6	"	12
Rounds, in pickle,	do.	4	"	6
Pork, Mess,	bbl.	9 75	"	12 00
Prime,	do.	6 50	"	9 00
Lard,	lb.	7	"	8 1/2
Bacon sides, Smoked,	do.	3	"	4
In pickle,	do.	3	"	4
Hams, Smoked,	do.	5	"	9
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	4	"	5
Pickled,	do.	3	"	4
RICE,	100 lbs.	3 00	"	4 00
SALT,	sack.	1 25	"	1 45
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	5	"	7
Timothy,	bush.	2 00	"	3 50
Flax, clean,	do.	1 25	"	1 40
rough,	do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	2 1/2	"	5
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	7	"	8 1/2
TOBACCO,	do.	24	"	7
WHISKY, American,	gal.	22	"	25
WOLLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood,	do.	20	"	25
Common do.	do.	15	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 15 cents per lb.; Veal, 8 to 12 cents; Lamb, 6 to 8 cents; Mutton, 7 to 9 cents; Pork and Sausages, 8 to 10 cents; Ham and Bacon, 6 to 12 cents; Beeve's Tongue, 50 to 60 cents each; young Pigs, \$1 to \$1.50 each.

Fish, &c.—Salmon, from 25 to 31 cents per lb.; Sea Bass, and Striped Bass, 8 to 10 cents; Halibut, 6 to 8 cents; King Fish, 10 to 12 cents; Cod, 5 to 6 cents; Weak Fish and Blue Fish, 5 to 6 cents; Black Fish, 6 to 8 cents; Pogonia, 4 to 6 cents; Eels, 6 to 8 cents; Green Turtle, 10 to 15 cents; Lobsters, 5 to 6 cents; Crabs (soft-shelled), 8 to 25 cents per dozen; Crabs (hard-shelled), 75 cents; Oysters, 50 cents to \$1.50 per 100; Clams, 25 to 75 cents per 100.

Poultry, Birds, and Eggs.—Turkeys, from \$1 to \$1.50 each; Geese, 75 cents to \$1.25 each; Ducks, 50 cents to 15 per pair; Chickens, 50 cents to \$1 per pair; Pigeons, \$1.25 to \$1.50 per doz.; Woodcocks, \$2 to 50 cents per dozen; Snipes, 75 cents to \$1 per dozen; Yellow Legs, \$1.25 to \$1.50 per dozen; Plover, 62 to 75 cents per dozen; Eggs, 10 to 13 cents per dozen.

Dairy Products.—Butter, from 12 to 22 cents per lb.; Cheese, 7 1/2 to 12 cents; Cheese Cakes, 10 for 12 cents; Milk, 3 to 6 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Strawberry Apples, from \$1.50 to \$2 per bbl.; Bough Apples, \$1.50; Pound Sweetings and Fall Pippins, \$1.50; Cherry Apples and Harvest Apples, 50 cents per basket; Crab Apples, 37 cents per half peck; Apples in small quantities, 6 to 37 cents per half peck; Pears, 37 to 50 cents per basket; Pears in small quantities, 6 to 12 cents per half peck; Peaches (Morris Whites), 50 cts. to \$1 per basket; Delaware Rare Ripes, 25 to 75 cents; Honest John's, 50 cts.; Crawford's Early Melocotones, 50 to 75 cents; Peaches in small quantities, 6 to 37 cents per half peck; Plums, 37 cents to \$3 per basket; Plums in small quantities, 18 cents per half peck; Green Grapes, 12 cents per half peck; Blackberries, 6 to 8 cents per quart; Whortleberries, 5 to 6 cents; Oranges, 25 to 62 cents per dozen; Lemons, 12 to 18 cents; Bananas, 25 to 75 cents; Pine Apples, 6 to 25 cents each; Chestnuts, \$3 per bushel; Hickory Nuts, \$2 per bushel; Pecan Nuts, \$1.25 to \$1.38 per bushel; Cocoa Nuts, 3 to 6 cents each; Pecan Nuts, 7 cents per lb.; Soft-Shell Almonds, 12 to 14 cents; Filberts, Hard-Shell Almonds and Madra Nuts, 8 cents.

Vegetables.—Mercer and Carter Potatoes from 50 to 55 cents per bushel; Pink Eyes, 37 to 50 cents; Sweet Potatoes, \$4.50 per bbl., or 37 cent per half peck; Common Potatoes in small quantities, 8 cents per half peck; Onions (common red), 75 cents per bushel; Silver-skinned, \$1; Onions in small quantities, 9 to 15 cents per half peck; Leeks, 1 cent each; Cucumbers, 75 cents per 100; Cucumbers for pickling, 25 cents per 100; Tomatoes, 25 cents per basket; Tomatoes in small quantities, 8 cents per half peck; Green Peppers, 75 cents per 100; Pumpkins, \$1 per dozen; White Squashes, 37 cents per bushel; Striped Squashes, 62 cents; Watermelons, 12 to 50 cents each; Muskmelons (citron), \$1 per bushel; Muskmelons in small quantities, 8 to 12 cents each; Egg Plants, 37 to 50 cents per dozen; Okra, 25 cents per 100; Jerusalem Artichokes, 25 cents per dozen; Green Corn, 37 to 50 cents per 100 ears; or 30 ears for 12 cents; String Beans, 9 cents per half peck; Shelled Beans (Lima), 15 cents per quart; Turnips, 75 cents per bushel, or 4 for 7 cents; Kohl Rabi, 2 cents each; Beets, 42 cents per bushel; Carrots, 50 cents; Cabbages, 3 to 4 cents per head; Lettuces, 2 to 3 cents; Radishes, 10 to 12 cents per dozen bunches.

REMARKS.—Since our last, we have to notice a rise of 12 1/2 to 25 cents per bbl. on Flour, while Wheat remains nearly as before. Corn has advanced from 10 to 14 cents per bushel. No other changes of consequence.

The Weather has been very dry since our last. We have the promise now (Aug. 16th), of copious showers. The corn and fruits have suffered somewhat in consequence of the drought. All the small grain crops are now harvested, and prove an average yield. Oats more than an average. The potato suffers somewhat from disease, and also has received considerable injury from the grub. On the whole, we fear the yield this season will be rather a light one.

TO CORRESPONDENTS.—Communications have been received from H. W. S. Cleveland, S. M. Browning, J. F. Willard, J. McKinstry, Wm. R. Prince, E. S. Reviewer, Samuel Allen, F. R. S.

ACKNOWLEDGMENTS.—List of Premiums to be awarded in the Agricultural and Horticultural Department of the American Institute, of the City of New York, at their Annual Fair, to be held at Castle Garden, on the 3d and following days of October next; Transactions of the American Institute, for 1845, from J. W. Chambers; Proceedings of the New-Jersey Historical Society, for 1845-6, from Col. Robert G. Johnson, of Salem, N. J.; Second Annual Report of the Ohio Board of Agriculture, for the year 1847, from Franklin E. Snow, of Bracerville, Ohio; Catalogue of Fruit Trees, for sale at Samuel Reeve's Nursery, at Salem, N. J.; List of Premiums, &c., to be awarded at the Fair of the Bennington County Agricultural Society, to be held at Shaftsbury, Vt., on the 27th and 28th of September; Real Cedula de Erescion del Consulado de la Habana, from Don Jose Maria de la Torre, of Havana; Plan of Show Grounds for N. Y. State Agricultural Society, from Samuel Allen.

PURE DEVON GATTLE FOR SALE.

THE subscriber will offer for sale, at the Show of the Hartford County Agricultural Society, to be held at Hayford, on the 12th of October next, a portion of his herd of pure Devon Cattle, as follows:—One Bull, four years old 28th of June last, a very superior animal bred by Lewis F. Allen, Esq., of Black Rock, N. Y., for which has been awarded the first Premium for three years in succession, at the Fair of the American Institute.

Also, two Full-Blood Cows, or Heifers, and three or four spring Calves. The above stock was derived principally from the herds of Geo. Patterson, of Maryland; Lewis F. Allen, of Black Rock; and E. L. Colt, Esq., of Paterson, N. J., having recently purchased his entire herd. Full pedigrees of the stock will be shown at the Fair.

Farmington, Ct., August 3d, 1848.

WM. L. COWLES.

STRAWBERRY PLANTS.

HOVEY'S Seedling, Boston Pine, Large Early Scarlet, Crimson Cone (one of the most vigorous, prolific, and best), Hudson's Bay, Victoria, Bishop's Orange, 75 cents per 100 each, for quantities not less than 500 plants in the whole, nor less than 100 plants of a variety, carefully packed and forwarded as directed; other varieties specified in our catalogue, at a reduction of one third from the catalogue prices, when no less than five hundred plants in the whole are ordered.

Also, the following new Ohio varieties:—Burr's Seedling, 50 cents per dozen, \$2 per 100; Burr's Mammoth, \$1.50 per dozen; Burr's New Pine, \$1.50 per dozen; Taylor's Seedling, \$1 per dozen, \$4 per 100; Hudson, of Cincinnati, 37 1/2 cents per dozen, \$1.50 per 100; Turner's Pine (Montevideo Pine of Prince), 75 cents per dozen.

Also, the ABERDEEN BEEHIVE STRAWBERRIES; strong plants, well rooted in small pots, and carefully packed in a box for distant transportation, price \$5 cash with the order, for 18 plants, including package. We imported the stock direct from Mr. Mathewson, of Aberdeen, Scotland, who originated this variety, and their genuineness may therefore be depended upon. Descriptive Catalogues, gratis, on application post paid. WINTER & CO.

Flushing, L. I., Sept. 1st, 1848.

alt

MILKMAN WANTED.

I HAVE a farm, well watered, comprising 230 acres of good land, one quarter of which is in woodland and blue grass pasture, situated on a turnpike road, five miles from Louisville, Ky., now containing about 45,000 inhabitants. I am desirous of procuring a capable man, with a family and a capital of \$1,000 or \$1,500, to become interested, and take charge of my place as a dairy, or milk farm. I am willing to furnish a suitable house for such family to reside in, and to divide equally the receipts of the establishment after the first year. A Swiss, or German, who understands English, would be preferred.

For further particulars, address the subscriber, at Hayfield, near Louisville, Ky. Unquestionable references will both be given and required. It Sept. WILLIAM SHORT.

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I WILL show, in the month of June next, 10 three-year-old and 10 two-year-old heifers, got by my Short-Horn Bull, Madrus, against as many heifers of the same age, got by any other bull of any breed other than a Short-Horn, or mixture of Short-Horn. I will also show at the Fair of the New-York State Agricultural Society, in 1849, 10 yearlings and 10 calves, got by the aforesaid bull, Madrus, against as many animals of the same age, got by one bull of any other breed than that of Short-Horn, or a cross of Short-Horn. The decision to be made with reference to prominent prospective qualities for milking, to be left to not less than three impartial judges, to be appointed at the times they are exhibited.

I do not make this challenge for the sake of boasting, but to defend the Short-Horns against the too often circulated reports that they are not good milkers.

THOMAS BELL.

Morrisania, August, 1848.

gr It

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Sept. 1st.

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BONE DUST, ground fine, at 25 per barrel, or 50 cents per bushel. A. B. ALLEN & CO., 189 and 191 Water st. et.

SCHOOL OF APPLIED CHEMISTRY,
Attached to the "Department of Philosophy and the Arts,"
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Professor of Chemistry and the Kindred Sciences Applied to the Arts.

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THE Instructors in this Department have opened a commodious Laboratory on the college grounds, where they are now prepared to receive pupils in Special and General Chemistry. The system pursued with those who design to become chemists, or to study the science extensively, is thorough and complete. Such students always commence with an extended course of qualitative examination of unknown substances—and in due time pass through a series of varied quantitative determinations. To those who wish to follow special investigations connected either with the arts, agriculture, or pure science, every facility will be afforded, both in organic and inorganic analysis.

Prof. B. SILLIMAN, Jr. will instruct particularly in general Elementary and Analytical Chemistry, Mineralogy, and Metallurgy, with special reference to their application to the useful arts. He will also give a course of Lectures on Mineralogy and Metallurgy, continued through the summer term. During the fall and earlier part of the winter, he will also carry a class through a course of Elementary Chemistry, in elucidation of the regular course on this subject in the academical department.

The instruction in the professorship of Agricultural Chemistry is intended to unite, as much as possible, practical views with theory; to give the untaught farmer an opportunity to become acquainted with so much of science as shall enable him to reason upon his daily pursuits, and to understand the great principles upon which good cultivation must depend, presented in so plain a form, as to be within the comprehension of all. Few chemical terms will be employed in the lectures, and those only of the simple explanations; they will thus be understood by those who have never devoted any attention to the subject. A regular course of lectures will be delivered in the winter of each year, commencing in January and continuing about two months, there being four lectures in each week. The subjects of the course will be—the composition and nature of the soil, the plant, and the animal—theories of rotation of crops, and of feeding—modes of draining—the different kinds of manures, their value and how beneficial—the improvement of waste lands, &c., &c. Text books will be indicated for study during leisure hours.

In connection with the lectures will be a short course of Elementary Chemistry, for such as wish to study somewhat more of chemistry than is given in the course, and to qualify themselves for making ordinary testings and qualitative examinations of soils, manures, &c.; this course will occupy two hours of five days in each week during two months.

The fee for the lectures on Agricultural Chemistry will be \$10. That for the elementary chemical course, including apparatus and reagents, will be \$35.

Students in Analytical Chemistry are allowed to work in the laboratory during the whole day; glass will be furnished (with charges for breakage), also the ordinary reagents and balances for the use of those who are so far advanced as to require them. There will be frequent recitations, and the students will receive the constant attention of one or both of the professors. The fee for this class will be \$20 per month.

The vacations will correspond with those in the academical departments, viz.:—six weeks from the third Wednesday of August; two weeks from the first Wednesday in January; and four weeks from the third Wednesday in April of each year. Sessions begin with the close of each vacation, and are at length respectively, 14—14, and 12 weeks.

Students in this school will enjoy all the advantages to be derived from the extended means of the Institution in libraries, instruments, and collections. The mineralogical and geological collection is widely known as one of the best in the country, and there are smaller collections in the possession of the professors. Those who desire it, can have access to the Lectures on Chemistry, Mineralogy, and Geology, by Prof. B. SILLIMAN, Sen., and to the lectures on Natural Philosophy, by Prof. D. OLNEYMAN.

Instruction is also accessible in the higher Mathematics, in Engineering and the use of Instruments, in Philology, History, Oriental Languages, and Belles-Lettres.

The department of Philosophy and the Arts, in Yale College, of which the school of Applied Chemistry is a part, has been organized with a view to meet the wants of those who desire to follow the studies embraced under it farther than they are pursued in a collegiate course. Those who desire further information on this subject are referred to the annual catalogue of the Institution for 1847-48.

A college education is not required, however, of those who become students under this department.

The professors are always accessible to those who wish to consult them on matters relating to their several departments; and will undertake such analyses and investigations as may be entrusted to them. Letters of inquiry will be promptly attended to.

Analytical Laboratory, Yale College, New Haven, July, 1848.

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The establishment, now in the highest order, and densely stocked, will be disposed of on liberal terms, offering from its location, celebrity, saleable stocks, greenhouses, dwellings, and other conveniences for conducting the business, very superior advantages to any person disposed to pursue it.

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Flushing, N. Y., Aug. 1st, 1848.

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A prospectus has been issued (which can be had at the office of the Company, or any of its agents), explanatory of the terms and conditions of insurance.

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Of $\frac{1}{2}$ inch calibre, weighing from 1 lb. 8 oz. to 3 lbs. 8 oz. per yd.	
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“ 1 “ “ “ 3 “ 8 “ 10 do 8 “	
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“ $2\frac{1}{2}$ “ “ “ 23 “ 8 “ 50 do “	
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“ 4 “ “ “ 49 “ “ 90 do “	
“ 4 “ “ “ Water Pipe 15 do 14 “	
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Price of the above pipes from 5 to 6 cents per lb. Tinned pipe, $\frac{1}{2}$ cent per lb. extra.

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WATER RAMS.

FOR SALE, Superior Water Rams, which, if applied to a large or small stream of water where there is one or more feet fall, a portion of said stream may be forced up, by its own power, to a height of 60 or 100 feet. The quantity of water raised will vary according to the height of the fall, the size of the stream, and the capacity of the ram. For instance, any one possessing a spring, or stream of water, that will discharge 8 or 10 gallons per minute, and can stop up the stream by a dam, so as to make a fall of 8 or 10 feet, by means of one of these machines, a constant stream, from a half-inch pipe, can be delivered at an elevation of 80 feet. Prices from \$12 to \$16—pipe extra. For prices of lead pipe, see advertisement above.

Take Particular Notice.—Persons making application for these rams, by mail, or otherwise, are requested to name the size of the stream, or quantity of water running in it per minute, the amount of the fall they are able to produce, the height the water is desired to be raised, and the distance it is wished to be conveyed.

my A. B. ALLEN & CO., 191 Water street, N. Y.

SALE OF SHORT-HORNED CATTLE AND MERINO SHEEP.

I WILL sell at Buffalo, during the days of the State Fair, 5th, 6th, and 7th of September next, under the directions of the Officers of the N. Y. State Agricultural Society, twenty to twenty-five thorough-bred Short-Horned cattle, consisting of cows, heifers, and young bulls. A catalogue with their pedigrees will be ready at the time of the Fair.

Also, I will sell at the same time, fifty Merino rams, bred from the Blakeley flock.

References, A. B. Allen, N. Y.; Sanford Howard, and B. P. Johnson, Albany; Francis Botch, Butternuts; and L. F. Allen, Black Rock.

J. M. SHERWOOD.

Auburn, May 16th, 1848.

SHORT-HORN AND DEVON CATTLE, COTSWOLD AND SOUTHDOWN SHEEP.

I WILL sell at the New York State Cattle Show, to be held on the 5th, 6th, and 7th of September next, at Buffalo, about 30 thorough-bred Short-Horn cattle, consisting of cows, heifers, and calves.

Also, 20 to 25 thorough-bred Devons, of like description. Likewise, 30 Cotswold sheep, ewes and rams of select, recently-imported stock; and about the same number of Southdowns.

The above stock I have been breeding for many years past, and its reputation in all their varieties is generally known. Catalogues, with pedigrees of the stock, will be furnished at the show grounds where the cattle will be exhibited.

Black Rock, N. Y., July, 1848.

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THREE hundred barrels superior new Genesee White Flint Seed Wheat, selected with great care, from the crop of T. H. Newbold, Esq., Livingston Co., N. Y. For sale by A. B. ALLEN & CO., Agricultural Warehouse, and Seed Store, 189 and 191 Water street.

THE AMERICAN AGRICULTURIST

AND

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HAVING arrived at a point in which I desire to reduce my stock of sheep, I have concluded to sell about 600 Merinos this Fall, inferior to none in the United States; 900 of which are half bloods, from the importation made by Mr. Taintor, of Hartford, Ct. Nothing need be said to recommend these sheep, for they wear their recommendation on their backs.

A. L. BINGHAM.

Cornwall, Vt., July 31st, 1848.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VII.

NEW YORK, OCTOBER, 1848.

NO. X.

A. B. ALLEN, Editor.

C. M. SAXTON, Publisher, 205 Broadway.

SALT MUCK.

AFTER all that has been said and written on the value of this excellent fertilizer, it is not only astonishing but highly mortifying to us, every time we find ourselves in the vicinity of the extensive salt marshes of this country, to see how few farmers avail themselves of the inestimable treasures which surround them. They will travel great distances, and lay out large sums of money for lime, ashes, marl, city manures, fish, poudrette, guano, &c., when they already possess a combination of many of the elements of these substances in their own neighborhood, in an almost unlimited quantity. Furthermore, it has the good quality of being beneficial where applied, even in the driest weather. For this reason alone, then, it should be used, when convenient, in preference to any other fertilizer, especially on light soils.

Many farmers, in the vicinity of the sea shore, object to the use of salt-water muck, for the reason that their land is already overdosed with saline substances. In this belief, we think they are generally mistaken; and when they are not, it is easy to mix the muck into a compost heap, with city manure, or vegetable substances of any kind, and then apply it.

In making use of salt-marsh muck, it is a great error, we think, to handle it much. This adds considerably to the expense, and nine times out of ten it might be saved. As a general rule, we should dig and cart it on the land, in autumn, spread it broadcast on the surface, let it lie till the following spring, and then plow in. It is thus subject to the action of frost all winter, becomes finely pulverized, and freely incorporates itself with the soil. It may also be carted into barnyards, in the fall of the year, and lie all winter, and then be mixed up in the spring; or it can be mixed into a

compost heap with quicklime and other materials, at any season of the year.

Immense crops of cabbages are grown in this neighborhood by mixing one part of street manure with two parts of sea muck, where it is considered one of the best fertilizers that can be applied to this crop. It gives the cabbages a very even and good growth, and a better flavor than when produced by more putrescent manures.

SOCIAL MEETING OF FARMERS AND GARDENERS.

On the first Monday of September, a meeting of farmers, gardeners, and others was held at our rooms, 189 Water street, from the proceedings of which we extract the following:—

Good Effects of Marl and Guano in Growing Wheat.—Mr. William Spader, of Marlborough, New Jersey, stated that he had mixed green-sand marl with guano in manuring his wheat fields, the year past, and that he obtained from 25 to 30 bushels of wheat per acre.

Astoria Pond Muck.—Mr. A. P. Cumings, of Williamsburgh, Long Island, stated that he had made use of fresh-water muck, taken from a pond, at Astoria, as a garden mould, and that it answered a most excellent purpose. This muck, it is said, is in general demand among gardeners and nurserymen about New York.

Mammoth Tomatos.—Mr. Cumings presented several tomatos of extraordinary size, one of which weighed 1½ lbs. They were grown in his garden at Williamsburgh, and cultivated the usual way.

Superior Cucumber.—Mr. E. K. Delafield, of Staten Island, presented a fine specimen of cucumber, weighing 2 lbs, 2 oz., of a white color, free from prickles, tender, of a solid consistency, excellent taste, but never bitter.

Grafting the Pear on Quince Stocks.—Mr. Cummings approved of grafting the French pear and other kinds of medium or dwarf growth, on quince stocks; but the famous Bartlett pear, as well as some other varieties of larger growth, he thinks will not succeed well unless they are grafted on pear stocks.

Fruit.—Several gentlemen presented fine specimens of the fruits of the season, among which were superior varieties of French pears, and the pound sweeting, or Somerset harvest apple, the latter literally weighing a pound.

EIGHTH ANNUAL SHOW AND FAIR

OF THE

New-York State Agricultural Society.

This was held at Buffalo on the 5th, 6th, and 7th of September. In the number of visitors, the interest excited, and the number, variety and quality of the specimens exhibited, this show has far exceeded any that has preceded it. This is conclusively shown by the fact that \$6,300 were received on the ground against \$4,034 last year, at Saratoga, and \$4,333, at Auburn, the year previous. It was estimated that nearly 50,000 persons were on the grounds at one time, and that over 70,000 visited them during the exhibition. The result of this show has disappointed two sets of croakers; the one predicting from last year's results, that the society was on its last legs, and would hardly survive the present year, and the other, that, although it might get along very well if the show were held in the eastern, or central part of the state, yet, that Buffalo was decidedly too far west for any successful assemblage of intelligent farmers.

It is one of the best features in the rules of the society, that its annual meetings are of a locomotive character, and that new points are constantly selected for them. If continuously held in any one place, it would beget apathy and extortion; while, as at present arranged, the rivalry for securing it, ensures a spirit of accommodation on the part of the town where it is to be held, highly conducive to the convenience of the society and the comfort of the visitors.

It also awakens a spirit of emulation on the part of the farmers in whose neighborhoods it is held, which is constantly striving to excel the previous exhibitions. We do not doubt, that while the number attending from other states, and especially from Pennsylvania, Ohio, Michigan, and Canada, much exceeded that upon any former occasion, there were more farmers and citizens of our own state present than ever before. The truth is, Buffalo is eminently a concentrating point, and speaking in the most enlarged and comprehensive sense, it is located in one of the best agricultural regions on the face of the globe; and the facilities for bringing people together at that place, cannot be exceeded, if equalled, by any inland town in the Union. The inhabitants in that wide-spread region too, are generally men of enterprise and intelligence—men who feel their responsibility in setting a proper example as farmers, and who at all times manifest a proper spirit in whatever relates to their profession, or duty. They are, besides, not

tied down to ancient usages and systems, as in some of the older states, or in eastern portions of our own. They are not only willing to learn, but are ambitious of improving every opportunity of doing so. To this spirit, and this character, we think, must be attributed the unusually large and animated spectacle presented at Buffalo, in September.

Pomology.—The show was preceded by a Pomological Convention, held at the same place, commencing on the first, and continuing to the fourth ult., inclusive. This, we believe, is the first general meeting of the kind, ever held in the United States; and if we can judge of the future by the spirit evinced in this, we must infer that pomology is destined to assume a high stand hereafter among the objects of attention in this country. About 300 delegates were present from half the different states of the Union. The number of specimens presented was immense. The discussion on the merits of the various kinds was scrutinizing, and generally just. We deem this a valuable beginning for the lovers of fine fruits, and one eminently calculated to assign a just place for the varied kinds cultivated in this country. The fact was here fully corroborated which had previously been found in isolated instances, that fruits change in character and excellence from a change in locality, soil, climate, and cultivation.

We trust the recent attention to this important branch of horticulture may result in giving an impetus to the enlargement and perfecting of our nurseries and orchards, which they have long needed. Nothing contributes more to our enjoyment, nourishment, and health, in the shape of food, than abundance of choice, ripe, seasonable fruit. It may be used without stint by old, young, and middle aged; cooked, raw, or preserved, in almost any form, or manner. It must be a vitiated system that it will injure, and a sadly-vitiated one that it will not cure.

The Show Ground.—This was beautifully located on the elevated lands that so gracefully sweep around the northern and western skirts of the city of Buffalo. Its entire length was nearly half a mile, with a width varying by rectangular additions from about 300 feet at its entrance, to 800 feet in the rear. The front was a gentle slope, and was occupied by two buildings, containing the treasurer's and secretary's office, nearest the street; by the mechanics' hall, the dairy, grain and seed hall, and the manufacturers' and miscellaneous hall; then followed the great horticultural tent, 120 by 80 feet on the ground; next the horse parade, over 200 feet in diameter; then the society's tent, 120 by 90 feet; near which were numerous minor buildings for committees, refreshments, and various subordinate purposes.

Four or five hundred feet in length of commodious, well-roofed sheds, made perfectly tight, with latticed fronts, was appropriated to the feathered tribes and rabbits; nor was this found adequate to contain the candidates for the honors and emoluments of the society. Near a thousand feet of pens were filled with woolled and bristled quadrupeds while acres of a well-wooded lawn gave shade and retirement to the varied families of the horned stock. Besides their course for examination, exer-

cise and display, the horses occupied a large portion of the grounds, not otherwise appropriated. Farming implements of every description filled up the remaining space left vacant by the buildings near the entrance.

The whole area of 16 acres, during a considerable part of the time it was opened for exhibition, was filled to overflowing with the thronging masses, and all seemed more than gratified. They were delighted at the display of agricultural and mechanical ingenuity, and prouder of their kinsfolks and their countrymen, and humanity; and that there was the spirit, and intelligence, and industry, to make so rich an exhibition of their Creator's handiwork, and their own. We may add, and that, too, with sincere gratification, that this feeling was equally prevalent in their intercourse with the citizens of the place; and when private houses were crammed, to repletion and hospitality could extend its right no further, the public houses, steam and canal boats, and even the vessels in the harbor, absorbed their full quotas of guests, neither did they make up in charges nor exactions, what they may have omitted in fare and accommodations.

For the first time, we believe, in the history of the society, every animal remaining on the ground was plentifully supplied with grain, hay, and freshly-cut grass and clover, with an abundance of water; all of which was gratuitously provided by the citizens of Buffalo, and with the utmost convenience to the keepers. We observed some confusion and injury resulting from the insecure fastening of the bulls, four of which, got loose at different times, and gored each other like so many windy politicians in an election encounter. They were at last secured, with little damage, except to each other. We recommend that the society, hereafter, allow no bull to enter the show ground, unless secured by a sufficiently strong chain, passing around the horns or neck of the animal, and fastened with a strong padlock. This would ensure absolute safety whenever the animal is not under the eye of the keeper.

The weather, throughout, was delightful. It had previously been hot and dusty, but a soaking shower, on the first morning of the exhibition, effectually laid the dust and cooled the atmosphere, during its continuance.

Tuesday, the 5th, was devoted to the examination of the different specimens of animals, implements, &c. &c., offered for exhibition, by the several committees. For the purpose of enabling them to perform their duties with deliberation and intelligence, spectators were excluded till Wednesday, but we noticed the committees almost as busy the following day, in settling the comparative merits of such animals as they could not fully decide upon previously; indeed, it was not before half of the day had elapsed, that some of the most arduous examinations were completed.

An extensive public sale of improved cattle and sheep commenced on Thursday, at 10 A. M., which with private sales, were continued during the remainder of this, and the following day. The auction sales were ruinously low, and the animals were withdrawn before the list was half disposed of. But many were subsequently sold at prices satisfactory, both to buyer and seller. Some choice

Short-Horns, from Cincinnati, Ohio, and Westchester, N. Y., were on the ground for sale, and we were pleased to see the former going to Canada, or remaining in this state, while our own went on 500 miles to the rich feeding grounds of the west, to improve the future beef for packing and exportation. Our Canada friends bought largely, evincing a proper spirit of emulation in the improvement of their breeds at home. Many were bought for the western states, and some changed hands among our own citizens.

An able address, from the Hon. John C. Spencer, on the protection of our home industry, thereby most effectually remunerating the industry of our agricultural population, was delivered under the society's large tent, on Thursday, at 1 P. M., and was listened to, for an hour and a half, with marked respect and admiration. An able lecture was delivered by Professor J. P. Norton, of Yale College; and numerous speeches, by distinguished individuals from various parts of the country, were made at several times and places, during the continuation of the show; and we much doubt if the people in attendance were not as much benefitted by what they heard, as from what they saw.

We deem the speeches and sale of stock on these occasions, as not less directly beneficial in their tendencies and results, than the exhibitions. If what they see, instructs their judgment and taste, what they hear, no less informs their understanding; and the fine specimens of implements, seeds, and cattle, they thus procure by a comparatively trifling outlay of capital, enable them to carry into successful practice, the newly-acquired views, or knowledge, they have gained.

The dinner came off at the American Hotel, on Thursday, at 9 P. M., and was fully attended by citizens, members, and distinguished strangers from abroad, who did ample justice to the tempting and abundant viands, its accomplished host so well knew how to provide. We noticed among others, on the right of the President, Hon. J. C. Spencer, Colonel Fergusson, C. W., General Riley, Lord Stanley, Colonel Kirby; on his left, General Worth, Hon. Edmund Burke, Commissioner of Patents, &c., while every part of the room had its representative from some of the professions, either at home or abroad, who had come up to the great festival, impelled by his zeal and interest in the farmer's cause.

The Trial of Plows.—In this, as usual, there was a most unsatisfactory performance. We think the premiums offered, and manner of testing the comparative draft of plows, unworthy the society. Beyond any other, and almost beyond all others of the farmer's implements united, is the importance of the plow; yet we see a large number of \$20 and \$25 premiums for bulls and cows, which is none too much to be sure, and the highest for the best of this most invaluable implement, is but \$10. It is mockery to offer such a premium, and worse than mockery to profess to verify the relative merits of the plow, in the manner proposed. The truth is, it needs a highly intelligent board of mechanics and agriculturists combined, and with all proper leisure and means to arrive at this decision correctly. The hurly burly of a fair is equally suited

to calculating an eclipse, or arranging a table of logarithms, as to guess with exactitude the draft performance, and precise merits of a plow. Some general estimate of comparative value can be made, as we guess a hawk from an eagle in the distance; but nice accurate distinction is out of the question, and no manufacturers having a reputation to lose, will deliberately subject their specimens to such haphazard trials. The premium for the best plow, ought to be \$50, at least, and if it merits it, \$500, and the trial should be an affair by itself, say, two or three days before, or at the close of the fair, when time enough should be given to the subject, and under such advantages for arriving at just conclusions, as will give absolute certainty to them, and command the confidence of the public.

Horses.—Of these, there was a better show than at any previous time. Several of each of the different classes of animals were on the ground, including the blood, the Cleveland bay, the Norman, the draught horse, and the horse of all work; and there were specimens of the extremes of horse flesh in a dappled Clydesdale, upwards of 18 hands high, and a pen of five Shetland ponies, about the size of a Cotswold or Lincolnshire buck. There were also numerous fine geldings, single and matched. The animals were generally choice of their kind, and highly creditable to the state. No jacks nor jennies, and but three mules were shown.

Cattle.—The Short-Horns were there in great force and excellence. We have never seen so large a number together, though many were there for sale, rather than exhibition.

The Devons were also more numerous by far, than at any previous time. We are glad to see public attention awakened to this meritorious breed, and that they are rapidly spreading themselves over the country in every direction.

The Herefords were on the ground, but not in large numbers. Of the 19 animals in this class, which received premiums, Mr. Sotham, took over one half, showing conclusively, that however meritorious are the animals he has heretofore parted with, his hand is still full of trumps.

Of Ayrshires, there were but few offered, but most of these were excellent. Several fine ones were brought to the ground, by Mr. Dougall, and others, from Canada.

Native cattle were there in considerable numbers, many of which, afforded conclusive evidence of good breeding and proper management.

The fat cattle were superior, as a lot, to any ever before shown together, and they evinced an increasing capacity, both in the animals and feeders, for loading the carcass to an uncomfortable obesity.

As specimens of what were offered, we append dimensions and weights of a few of them.

A single fat ox, over four years old, 1st premium, shown by Edward Munson, of Sennett. Girth, 9 feet. Length, 7 feet 8 inches. Weight, 3,100 lbs.

One pair of fat oxen, over four years old, 1st premium, exhibited by J. and F. A. Alberger, of Buffalo. Girth of Empire State, 9 feet 3½ inches, Queen City, 9 feet. Live weight, 5,784 lbs.

Next largest pair of fat oxen, 2d premium, shown by Lyman Brainard, of Attica. Weight, 4,800 lbs.

Third, and best pair of fat oxen, 3d premium, by L. Doty, of Attica. Weight, 4,670 lbs.

A fat cow, over 4 years old, 1st premium, by Robert Hadfield, of Sheldon. Live weight, 1,742 lbs.

Another fat cow, over 4 years old, 2d premium, by Robert Fowler, of Batavia. Weight, 2,030 lbs.

Also a fat cow, over 4 years old, 3d premium, by Allen Ayrault, of Geneseo. Live weight, 1,652 lbs.

Sheep.—Of these, the show was much beyond our expectation. Large numbers of them were offered for prizes, and a still larger number for sale. They embraced a good many of the best Saxons, and the best Merinos, including some from the most recent importations. The long and middle wools, were all embraced in the Cotswold and Southdowns, both of which breeds were worthily represented in quantity and quality.

Swine.—These were not numerous, but there were many good animals, and of a considerable diversity of breeds. The Berkshires seemed rather to predominate.

Poultry.—This department was never in higher repute than on this occasion, having monopolized a large proportion of the grounds and the attention of the spectators, a distinction to which their numbers, variety, and merits fully entitled them.

Dairy Products.—These were particularly meritorious. Butter was exhibited in much less quantity than at the eastern shows; but in cheese, the specimens were far beyond what was ever seen together out of Erie county, which is undoubtedly one of the first in the world for its cheese.

Farm Implements.—These were numerous and good, equal, if not superior, to any ever shown. Besides those offered from our own state, there were several from abroad, and among others, a large assortment of the celebrated eagle, and other plows and farming implements, from the extensive manufactory of Messrs. Ruggles, Nourse, and Mason, of Massachusetts.

Other manufactured articles, including the handiworks of the ladies, were very extensive in quantity, and gave a high idea of the perfection of manufactures and the useful arts, in western New York.

Several samples of unbranched wheat, with the bran as removed by a cast-iron machine, were exhibited by L. A. Spaulding, of Lockport. This is said to be a great improvement in making flour, and is well worthy the attention of millers, and particularly as it is alleged that a machine that will unbran 100 bushels of wheat per hour, costs complete but \$100.

We were glad to perceive several specimens of flour and meal prepared so as to resist injury when exposed to hot climates. These improvements, if fully carried out, will extend the markets, and augment the profits of our bread stuffs to a large amount.

Floral Hall.—This was never before the recipient of more abundant and appropriate offerings than were here made of the flowers, fruits, and vegetables, by the devoted votaries of the tripple Goddesses, Flora, Ceres, and Pomona. But we have to acknowledge, which we do with the highest gratification, that for the former we were largely indebted to the zeal and devotion of our co-workers in adjoining states and Canada. We have thus barely glanced at some of the leading features of this interesting anniversary. The forthcoming volume of the society will hardly do justice to it in detail.

PROGRAMME OF THE FAIR OF THE AMERICAN INSTITUTE.

EXHIBITORS of specimens for premiums, excepting cattle and other live stock, agricultural and horticultural productions, &c., are required to bring them to Castle Garden, and obtain a certificate from the clerk of the Fair, on Friday or Saturday, the 29th and 30th days of September, previous to the opening of the exhibition.

Monday, Oct. 2.—Will be appropriated for the arrangement of the contributions. Vegetables, fruits, and flowers, for the horticultural room, should be brought this day, before 12 o'clock.

Tuesday, Oct. 3.—The exhibition will open to the public at 9 o'clock A. M., and continue until 10 P. M., through the fair. The opening address will be delivered this evening, at 7½ o'clock, in the garden.

Wednesday, Oct. 4.—The steam engine, with moving machinery, will be in operation, and continue during the exhibition.

Thursday, Oct. 5.—Plowing and spading matches, at White Plains, West Chester county, N. Y., in conjunction with the Society of Agriculture and Horticulture of West Chester County.

Saturday, Oct. 7.—Fireworks this evening at 9 o'clock.

Monday, Oct. 9.—Cattle and other live stock to be exhibited on Wednesday, must be entered on the books this day, and pedigrees delivered to the clerk at the committee room, at the Washington Drove-Yard Hotel, in 44th street, between 4th and 5th Avenues.

If previously sent to T. B. Wakeman, the Corresponding Secretary of the Institute, they will be attended to.

Show of choice roses and dahlias, this day at 12 o'clock, at Castle Garden, for special premiums.

Tuesday, Oct. 10.—The Convention of Fruit Growers will meet this morning, at 11 o'clock, A. M., at Judson's Hotel, 61 Broadway.

Wednesday, Oct. 11.—The Cattle Show opens at 9 o'clock, A. M., at the spacious premises known as the Washington Drove Yard, in 44th street, between 4th and 5th Avenues, when all the animals must be on the ground.

Thursday, Oct. 12.—Second and last day of the cattle show. Anniversary address at the Broadway Tabernacle at 7½ o'clock, P. M. Music by an accomplished choir, under the direction of Mr. George Andrews.

Saturday, Oct. 14.—Pyrotechnic exhibition, in competition for premium, at 9 o'clock, P. M. Each exhibitor will be required to fire three pieces. Entries to be made on the books before 12 o'clock.

COMMON SALT POISONOUS TO PLANTS.

MR. W. R. RANDALL recently read a paper on this subject at a meeting of the British Association at Swansea, as a practical caution in the cultivation of plants. Three or four plants having been shown the author, nearly or quite dead, and having searched in vain for any strong poison in the soil, and in the plants themselves, he inquired more minutely into the circumstances of the case, and found that these were only specimens of many hundreds of plants, both in the open air, and in the green houses (but all in pots), which all exhibited, in a greater or less

degree, the same characteristics. The roots were completely rotten; the stems even, in young plants, assumed the appearance of old wood; the leaves became brown, first at the point, then around the edge, and afterwards all over, while the whole plant drooped and died. They included different varieties of the fir, cedar, geranium, fuchsia, rose, jasmin, and heath.

Finding that the whole were daily watered from one particular source, the conclusion was at once suggested, that the cause of the evil must reside in the water thus used, which was then examined, and each 20 fluid ounces yielded the following constituents:—Carbonate of lime, 0.6, sulphate of lime, 0.462, chloride of calcium, 0.2, chloride of magnesium, 1.252, chloride of sodium, 6.906.

The mould round the plants, and an infusion of the dead stems and leaves, also afforded abundant evidence of the presence of much chloride of sodium; and it was also discovered that the well had an accidental communication with the sea, and had been used in this state for some weeks, probably two or three months. Further experiments were made, and showed that water containing about 7 grains of salt, in each pint, is, in its continued use, an effectual poison for plants and the weaker forms of vegetation; and that when the soil is continually watered with a weak solution of salt, it gradually accumulates in it, until it becomes sufficiently contaminated to be unfit to support vegetable life.

In either case, an interesting subject of inquiry is suggested—What is the weakest solution of salt which can produce in any measure this poisonous effect? Or, in other words, at what degree of dilution does the danger cease? For salt is often a natural constituent of spring water, quite independent of any infiltration from the sea, as in this instance. Thus, the water of the Artesian well, Trafalgar Square, London, contains in each gallon about 20 grains; that at Coombe and Delafield's brewery, 12.7; that at Wolverton railway station, 6; one lately sunk at Southampton for supplying a manufactory, 40. Might it not then be justly asked, whether the subject of the suitability of water in general for the various purposes to which it is applied, is not worthy of a greater share of scientific attention than it has hitherto commanded?

FARMERS, READ THE AGRICULTURAL PAPERS.—Not the older ones—they have no need of this *superfluity* of the nineteenth century; but the younger ones can thus learn something, which their seniors are too wise to do. Read the best agricultural papers and journals; one, two, or three, if you can get them. Sift the chaff from the wheat, the bran from the flour, and make good digestible bread of the last. The expense of taking these is nothing, comparatively. Look at your bills for extra horse, trappings, cigars, tobacco, juleps, and nonsense of any kind, which you have both cash and leisure for, and you will find that you can take half a dozen of the best agricultural papers in the Union, with less than half the money you annually throw away in what is worse than useless.

It is necessary to avoid returning too soon to the cultivation of the same plant, or to analogous kinds of vegetation, in the same soil.—*Chaptal*.

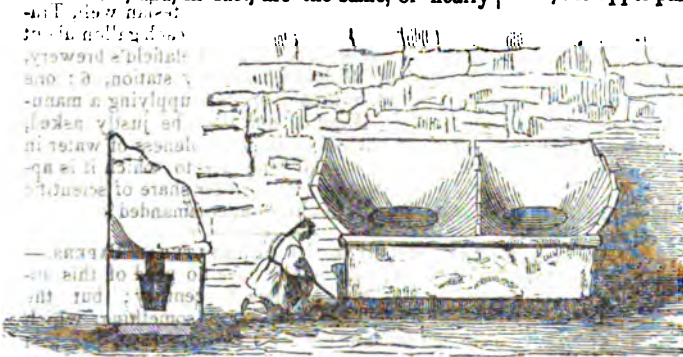
AGRICULTURE OF THE CHINESE.—No. 10.

Mode of Gathering and Preparing Tea Leaves.—

The mode of gathering and preparing the leaves of the tea-plant is extremely simple. We have been so long accustomed to magnify and mystify everything relating to the Chinese, that, in all their arts and manufactures, we expect to find some peculiar and out-of-the-way practice, when the fact is, that many operations in China are more simple in their character than in most other parts of the world. To rightly understand the process of rolling and drying the leaves, it must be borne in mind that the grand object is to expel the moisture, and at the same time to retain, as much as possible, of the aromatic and other desirable secretions of the species. The system adopted to attain this end is as simple as it is efficacious.

In the harvest seasons, the natives are seen in little family groups on the side of every hill, when the weather is dry, engaged in gathering the tea leaves. They do not seem so particular, in this operation, but strip the leaves off rapidly and promiscuously, and throw them all into round baskets made for the purpose out of split bamboo, or rattan. In the beginning of May, when the principal gathering takes place, the young seed vessels are about as large as peas. These are also stripped off and dried with the leaves; it is these seed vessels, which we often see in our tea, and which have some slight resemblance to young capers. When a sufficient quantity of leaves is gathered, they are carried home to the cottage, or barn, where the operation of drying is performed.

The drying pans and furnaces in these places are very simply constructed. The pans, which are of iron, and are made as thin as possible, are round and shallow, and, in fact, are the same, or nearly



FURNACE AND DRYING PANS.—FIG. 81.

the same, as the natives have in general use for cooking their rice. A row of these are built into brick work and chunam [lime], having a flue constructed below them, with the grating, or rather fire place, at one end, and the chimney, or, at least, some hole to allow the smoke to escape, at the other. A chimney is a secondary consideration with the Chinese, and in many instances which came under my observation, the smoke, after passing below the drying pans, was allowed to escape, as it best could, through the doors and roofs of the houses; which, indeed, in China, is no difficult matter.

When the pans are first fixed, the brick work and chunam are smoothed off very neatly round their edges and carried up a little higher, particularly at the back of the pans, at the same time widening gradually. When complete, the whole has the appearance of a row of large high-backed basins, each being three or four times larger than the shallow iron pan which is placed at its bottom, immediately over the flue. When the fire is applied, the upper part of these basins, which is formed of chunam, gets heated as well as the iron pan, though in a less degree. The drying pans, thus formed, being low in front, and rising very gradually at the sides and back, the person, whose duty it is to attend to the drying of the leaves, can readily manage them, and scatter them about over the back of the basin. The accompanying sketch, fig. 81, which was made on the spot, will render this description more clear.

The leaves having been brought in from the hills are placed in the cottage, or drying house. It is now the duty of one individual to light the little fire at the mouth of the flue, and to regulate it as nicely as possible. The pans become hot very soon after the warm air has begun to circulate in the flue beneath them. A quantity of leaves, from a sieve, or basket, are now thrown into the pans, and turned over, shaken up, and kept in motion by men and women stationed there for this purpose. The leaves are immediately affected by the heat. They begin to crack, and become quite moist with the vapor, or sap, which they give out on the application of the heat. This part of the process lasts about five minutes, in which time the leaves lose their crispness, and become soft and pliable. They are then taken out of the pans and thrown upon a table, the upper part of which is made of split pieces of bamboo as represented in fig.

82. Three or four persons now surround the table, and the heap of tea leaves is divided into as many parcels, each individual taking as many as he can hold in his hands, and the rolling process commences. I cannot give a better idea of this operation than by comparing it to a baker working and rolling his dough. Both hands are used in the very same way; the object being to express the sap and moisture, and at the same time to twist the leaves. Two or three times during the operation, the little bundles of rolled leaves are held up and shaken out upon the table, and are then again taken up and pressed and rolled as before. This part of the process also lasts about five minutes, during which time a large portion of green juice has been expressed, and may be seen finding its way down between the interstices of the bamboos. The leaves being now pressed, twisted, and curled, do not occupy a quarter of the space which they did before the operation.

When the rolling process is completed, the leaves are removed from the table and thinly shaken out for

the last time, upon a large sort of screen, also made out of split pieces of bamboo, and are exposed to the action of the air. The best days for this purpose are those which are dry and cloudy, with very little sun. The object being to expel the moisture in the most gentle manner, and, at the same time, to allow the leaves to remain as soft and pliable as possible. When the sun is clear and powerful, the moisture evaporates too rapidly, and the leaves are left crisp, coarse, and not in a proper state to undergo the remaining part of the process. There is no stated time for this exposure, as much depends upon the nature of the weather and the convenience of the work people; sometimes I have seen them go on with the remaining part of the operation without at all exposing the leaves to the air.

Having in this manner got rid of a certain part of the superfluous moisture, the leaves, which are now soft and pliant, are again thrown into the drying pans, and the second heating commences. Again one individual takes his post at the furnace, and keeps up a slow and steady fire. Others resume their places at the different drying pans, one at each, and commence stirring and throwing up the leaves, so that they may all have an equal share of the fire, and none get scorched, or burned. The process of drying thus goes on slowly and regularly. This part of the operation soon becomes more easy; for the leaves, as they part with their moisture, twist and curl, and consequently take up much less room than they do at first, and mix together more readily. The tea leaves being now rather too hot for the hand, a small and neat brush, made of bamboo, is used instead of the fingers for stirring them up from the bottom of the pan. By this means, the leaves are scattered about on the smooth chunam work, which forms the back of the drying pan, and, as they roll down on this heated inclined plane they dry slowly, and twist at the same time. During this operation, the men and women, who are employed, never leave their respective stations, one keeps slowly feeding the fire, and the others continually stir the leaves. No very exact degree of temperature is attempted to be kept up, for they do not use the thermometer, but a slow and steady fire is quite sufficient; that is, the pan is made and kept so hot, that I could not place my hand upon it for a second of time. In order to get a correct idea of the time required to complete this second part of the process, I referred to my watch on different occasions, and at different tea farms, and always found that it occupied about an hour; that is, from the time the leaves were put into the pan after exposure to the air, until they were perfectly dry.

When the operation of drying is going on largely, some of the pans in the range are used for finishing the process, while others, and the hottest ones, are heating and moistening the leaves before they are squeezed and rolled. Thus a considerable number of hands can be employed at once, and the work goes on rapidly without loss of time or heat,

the latter of which is of some importance in a country so ill provided with fuel.

The tea prepared in the manner which I have just described is greenish in color, and of a most excellent quality. It is called by the Chinese, in the province of Chekiang, *Tsao-tsing*, or the tea which



THE ROLLING PROCESS.—FIG. 82.

is dried in the pan, to distinguish it from the *Hong-tsing*, or that kind which is dried in flat bamboo baskets over a slow fire of charcoal.

This latter kind, the *Hong-tsing*, is prepared in the following manner:—The first process, up to the period of rolling and exposure to the air, is exactly the same as that which I have just described, but instead of being put into the drying pan for the second heating like the *Tsao-tsing*, the *Hong-tsing* is shaken out into flat baskets, which are placed over tubs containing charcoal and ashes. The charcoal, when ignited, burns slowly and sends out a mild and gentle heat. Indeed, the only difference between the two teas consists in the mode of firing, the latter being dried less and more slowly than the former. The *Hong-tsing* is not so green in color as the *Tsao-tsing*, and I believe has rarely been exported.

After the drying is completed, the tea is picked, sifted, divided into different kinds and qualities, and prepared for packing. This is a part of the operation which requires great care, more especially when the tea is intended for the foreign market, as the value of the sample depends much upon the "smallness and evenness" of the leaf, as well as upon its other good qualities. In those districts where the teas are manufactured solely for exportation, the natives are very particular in the rolling process, and hence the teas from these districts are better divided and more even—although I should doubt their being really better in quality—than they are in the eastern parts of the province of Chekiang. When they have been duly assorted, a man puts on a pair of clean cloth or straw shoes, and treads the tea firmly into baskets, or boxes, and the operation is considered complete, in so far as the grower is concerned.

I have stated that the plants grown in the dis-

trict of Chekiang produce green teas, but it must not be supposed that they are the green teas which are exported. The leaf has a much more natural color, and has little or none of what we call the "beautiful bloom" upon it, which is so much admired in Europe and America. There is now no doubt that all these blooming green teas, which are manufactured at Canton, are dyed with prussian blue and gypsum, to suit the taste of the foreign "barbarians." Indeed, the process may be seen any day, during the season, by those who will give themselves the trouble to seek after it. It is very likely that the same ingredients are also used in dyeing the northern green teas for the foreign market; of this, however, I am not quite certain. There is a vegetable dye obtained from the Chinese woad (*Isatis indigotica*), much used in the northern districts, and called *Tein-ching*, and it is not unlikely that it may be the substance which is employed.

The Chinese never use these dyed teas themselves, and I certainly think their taste in this respect is more correct than ours. It is not to be supposed that the dye used can produce any very bad effects upon the consumer, for, had this been the case, it would have been discovered before now; but if entirely harmless, or inert, its being so must be ascribed to the very small quantity which is employed in the manufacture.

When the teas are ready for sale, the large tea merchants, or their servants, come out from the principal towns of the district, and take up their quarters in all the little inns, or eating houses, which are very numerous in every part of the country. They also bring coolies loaded with the copper coin of the country, with which they pay for their purchases. As soon as the merchants are known to have arrived in the district, the tea growers bring their produce for inspection and sale. These little farmers, or their laborers, may now be seen hastening along the different roads, each with two baskets, or chests, slung across his shoulder on his bamboo pole. When they arrive at the merchant's abiding place, the baskets are opened before him, and the quality of the tea inspected. If he is pleased with its appearance and smell, and the parties agree as to the price, the tea is weighed, the money paid down, and the grower gets his strings of copper money slung over his shoulder, and returns to his farm. But should the price offered appear too low, the baskets are immediately shouldered with the greatest apparent independence, and carried away to some opposition merchant. It sometimes happens, however, that a merchant makes a contract with some of the tea growers before the season commences, in which case the price is arranged in the usual way, and generally a part paid in advance. This, I understand, is frequently the case at Canton when a foreign resident wishes to secure any particular kind of tea.

After the teas are brought up in the district where they are grown, they are conveyed to the most convenient town, where they are assorted and properly packed for the European and American markets. Such is the system of green-tea culture and manufacture which came under my own observation in the province of Chekiang.

SUPERIORITY OF COTTON MATTRESSES.

THE object of this communication is, to show that, though wool mattresses are undoubtedly an excellent article, yet, if "Cato" will try a mattress made of cotton, with the same labor as in making a wool mattress he will not be so sanguine as to cheapness and economy. Mattresses are used in my family, winter and summer. We do not use feather beds—and we have now the wool and the cotton. In the summer, no one will prefer a wool mattress in my house, and in the winter, with a large blanket under the sheet, no one would know the difference, unless it is that cotton is most pleasant. These things are an old tale to the writer, having used them continuously for eighteen years, and he has written about them for ten years, and talked of them all the time.

Sixty pounds of cotton will make the largest possible mattress, and as there is no need of carding, it being whipped with a clean rod in each hand, and made up in a few hours, a cotton mattress of 50 or 60 lbs. is worth, say \$12 or \$15. Sixty pounds of wool will not make so large a mattress. It is easier made when the wool is ready as the needle passes through more readily, but the washing, drying, and carding is worth at least the price of the cotton; and then wool is worth at least thrice the price of the cotton. Let Cato lay aside Roman antiquities, and take up his arithmetic, and he will see where economy is.

Sixty pounds is needed to make the mattress to fit what is termed a family bedstead, nearly square—and if 70 lbs. of wool were put in that sized mattress, it would be none too much. A well-made mattress, six inches thick, two on a bedstead, with slats of plank underneath, need not be made over oftener than every four or five years—of course they should be sunned, and occasionally whipped clear of dust. A very good aid, is a slip to cover your mattresses. These slips can be washed, and thus kept clean. **COTTON vs. WOOL.**

GUANO.—We should be glad to hear from some of our observing farmers who have used guano since its first introduction into this country. A systematic and well-authenticated statement of the value of this manure as an application to various crops and soils, and in different seasons and circumstances, is still a desideratum with us. Information from intelligent, careful men would be invaluable as establishing its merits in comparison with other manures, and its durability and value to subsequent crops. From numerous experiments with this popular fertilizer, important rules and principles may be deduced of great value to the economical agriculture of this country.

RESOURCES OF THE SOUTH.—A friend writes us, that a field of corn, of 140 acres, on his plantation, in Louisiana, averaged last year, 91 bushels per acre, making 12,740 bushels; and that his present crop will be equally good. Surely, with such resources as these at command, the south may at least supply itself with corn meal as well as with bacon; and any time the planters see fit, they can produce large quantities for exportation.

AGRICULTURE OF THE CONNECTICUT VALLEY.

The agriculture of the Connecticut Valley, in the neighborhood of Northampton, is subject to some, though not sudden or extreme changes. In the early settlements of the country, wheat formed one of the principal staples; but it has long since ceased to yield a profitable return. Occasionally a field of winter wheat may be seen, which does not well repay the cost of cultivation. The spring grain gives a surer crop, but is subject to so many accidents that it seldom occupies the attention of the farmer, who finds his labor and tillage much better rewarded by the substitution of rye. This is generally a profitable crop for the light soils that abound throughout this region.

Indian Corn.—This, from the first settlements to the present moment, has proved one of the most valuable of the staple products. The alluvial soil of this valley is peculiarly favorable to the production of corn; and nowhere on the continent is it produced in greater luxuriance; and nowhere, do I believe, to a greater profit. The farmers are very careful in the selection of choice kinds, especially of such as mature early, to avoid frosts that sometimes injure those that ripen late. They also plant only such as have full, heavy ears, and yield several ears to each stalk. The ground is generally well manured, and well tilled, so as to give a large yield; for it has long since been found that a man may keep poor by raising light crops, when he might just as well get rich by raising large ones, after deducting their extra cost for manures, labor, &c. The stalks will repay the cultivation in this neighborhood, where hay sells for \$10 to \$12 per ton, and the grain, which here always commands a comparatively high price, affords a handsome profit, besides an ample remuneration for the land and manure.

Broom Corn.—Several years ago, this yielded a large profit. The seed and brush occasionally gave over \$100 per acre, for nett profit, besides paying the rent of the land. Its cultivation was attended with a double advantage, as it furnished the neighborhood with a profitable winter's work in manufacturing it into brooms. But the fertile west, the Scioto and Miami Valleys, Illinois, Wisconsin, and Missouri, have devoted some of their rich lands to this object, and it is furnished from these sources at rates which render it less an object of attention here than formerly. The brush produced at the west, however, is coarser and more brittle than that raised in the eastern states, on land long subject to tillage. Although not so general a crop as formerly, there are still large fields of broom corn raised here, which, with much that is brought from the west, is manufactured in the surrounding towns for exportation.

Tobacco.—This crop occupies some of the best lands of this valley. No farmer devotes any considerable portion of his land to this plant, but many appropriate a few acres to it. It is a plant requiring great fertility to make it adequately productive, and much attention is needed at certain stages of its growth. For this reason, a small field may be very profitable where the requisite means are used, while

a larger one, suffering even a partial neglect, may be attended with absolute loss.

I noticed on the farm of the late Hon. Isaac, C. Bates, now in the hands of his son, Mr. S. H. Bates, of this town, some very choice fields of tobacco, which he informed me had been cultivated with a satisfactory profit. His crop, last year, averaged nearly 2,000 pounds of dried leaves per acre, ready for market, which sold, delivered at the railroad depôt, near the farm, at 9½ cents per pound. This gave a nett profit of about \$100 per acre. Some in this valley, have realized over \$200 per acre, for a single crop. The kinds raised by Mr. Bates, are from seed imported from Brazil, the West-India Islands, and elsewhere, some of which had been previously acclimated in this country. They are hardy, prolific varieties, with long, broad leaves, the ribs of which run nearly at right angles with the stem. These afford the most valuable kinds for cigar wrappers, and for this purpose are generally preferred to the produce of the Spanish islands.

The seed is sown early in April, in a rich mellow bed, where, if the season be cold, it lies till near the middle of May, before the young plants make their appearance. They are transplanted from four to six weeks afterwards, into well-prepared ground, in hills containing a single stalk each. They require about the same amount of cultivation as corn; but in addition, it is necessary to prime, top, sucker, and worm them; thereby much increasing the labor necessarily bestowed upon the latter. The first two operations are performed but once in a season, while the others require to be frequently repeated, as any neglect may materially impair the value of the crop.

It is cut about the 10th of September, before frost makes its appearance, and immediately hung up to cure, under cover, where there is a free circulation of air. The leaves are stripped and bound for packing in damp weather, in November, or at any time subsequent. It loses in weight, but improves in quality, by keeping, sometimes commanding an advance equal to 100 per cent. per annum, for the first two or three years after curing, from the superior flavor thereby acquired.

Flax.—A company for the manufacture of flax into cordage, twine, shoemaker's thread, &c., has been lately organized in this town, with a capital of \$50,000. The proprietors have offered prices for the cultivation of flax, which have directed some attention to this subject the present season, and it is estimated that 1,500 acres will be put into this crop the ensuing season, in anticipation of the demand. The company pay \$12 per ton for the undressed flax after threshing; and good land will produce 2,000 to 3,000 pounds per acre. The seed is worth \$1.25 to \$1.50 per bushel, which is yielded at the rate of 10 or 12 bushels per acre. This makes a profitable crop, even where considerable manure has to be purchased at high prices, to repair the exhaustion consequent upon the large demands made upon the soil, where the seed is allowed to ripen. If the flax is pulled before the seed matures, the exhaustion of the fields is much less, and the fibre is superior in quality; but there is the total loss of seed, which, after expressing

the oil, furnishes food of the most nutritious and fattening quality for stock.

A large company, with a similar object as the above, has been formed within a year or two in Middletown, Conn., with manufacturing branches, in other and remote states, and it is designed soon to erect buildings for this purpose in that state on an extensive scale. The latest improvements in steam-rotting, breaking, and dressing the flax, have been adopted; and the intelligent and enterprising proprietors confidently look forward to a handsome return for their capital, which, it can hardly be doubted, they will receive. These enterprises will open another source of profit to the agriculturists of New England, and supply a species of manufacture, for much of which we have too long been dependant on importations from abroad.

Beet Sugar.—The enterprise commenced here some ten years since, for the manufacture of *beet-root sugar*, never was fully carried out; and from the high price of labor, and the various products in our country, would probably have proved unsuccessful. This may be moderately profitable in France, where labor is cheap, and the land is divided among numerous small proprietors, who practise a very nice cultivation; and especially where the cane sugar pays a high duty. But our immense and rapidly-extending sugar region at the south, and the cheap labor applied to its cultivation, will probably forever preclude the success of any rival to the sugar-cane in this country.

Ayrshire and Hereford Cattle.—Mr. Bates has a large number of cows and heifers from the Ayrshire bull, imported by the Massachusetts Agricultural Society, 12 or 15 years since. His testimony is in favor of their excellent milking qualities, though he thinks them decidedly inclined to be ill-tempered, kicking, &c. This last is probably an accidental quality, derived from a vicious parent, and is, by no means, characteristic of the race. I saw, the sire of this stock ten years since, and though decidedly faulty, and even uncouth in its form, he had the reputation of coming from the best milking stock, which his appearance did not belie. I saw at the same time, and previously, in several of the herds of this neighborhood, several choice descendants from the Hereford stock, imported by the late Admiral Coffin. Among them were as fine a pair of fat cattle as I have ever seen. They had done a full season's work at plowing, &c., but a few months previous. The cows were generally good milkers; and the experience of dairymen was, that although the quantity of milk was less, the quantity of butter was greater than from the other cows. Mr. Bates has a fine Hereford bull from the very superior herd of Mr. Sotham, of New York, from which he has confident hopes of continuing the improvement of his herds.

Mutton Sheep and Early Lambs.—The extensive flocks of Saxon sheep so long kept by the late Mr. B., have been disposed of for some years. Some of the best flocks of the early importations were brought into this state; but the system of agriculture pursued in the eastern and middle portion of it, has not admitted of rearing them to any advantage. Land has been too high, and other articles were too much in demand, to admit of keeping

sheep principally for their fleeces. If mutton commanded an equally ready sale with beef and pork, the long and middle wools might be advantageously reared even here. There are some farmers who keep flocks of the original stock of the country, partially mixed, perhaps, with some of the improved breeds, from which early and large lambs are produced with a decided profit. They are economically raised for an early market, where the owner has a yard sloping to the south east, with an underground shed, to which they can retreat, and where they are well protected from the chilling influence of the winter and early spring blasts. With a little attention, in the coldest nights, the lambs may come very early, and be fit for market, when they will command the highest prices.

The Crops.—These present a flourishing aspect, excepting potatoes, which, in the lower grounds, have already begun to suffer, and many fields show an extensive progress of the prevalent epidemic. It is not improbable, that those late planted upon the higher lands, may yet feel the fatal effects of this disease.

Improvements.—These throughout this valley, although not so conspicuous from the contrast, as in some other portions of the country are easily discernible, notwithstanding. They are shown by the introduction of the most improved plows, and other agricultural implements, the selection of the best seeds, deeper and more thorough tillage, and greater fertility, which is studiously provided for by every available means. The buildings are better, and more numerous, new hamlets and villages are springing up in various directions, whilst those of older date are enlarging their precincts and improving in their style of architecture and general arrangement.

Far beyond all these, is the new manufacturing town, recently commenced opposite Hadley Falls. On the Connecticut River, about eight miles below this place, a temporary wooden dam is now erecting, 1,000 feet long, and 30 high, at a distance of three fourths of a mile from the entrance to the canal above. This, it is designed to replace hereafter by one of stone. The extent of the future city may be inferred, from the fact, that there is a fall of 59 feet perpendicular, from the surface of the dam to the outlet of the raceway, and ample canals are in progress for conducting the whole body of the river at low water. The plan embraces a double, or triple row of the largest manufactories yet built, extending for nearly one and a half miles along the river bank. The enterprise is in the hands of some of the wealthiest and most enterprising men of Massachusetts; and, when fully completed, this water power is destined, probably, directly or indirectly, to afford profitable employment and support to one fourth of a million of human beings. Four bridges have been constructed over the Connecticut River since the commencement of the Western Railroad, and another is to be built immediately. All these are within a space of 20 miles, and cost on an average of about \$100,000 each. This one item shows something of the enterprise existing here.

R. L. ALLEN.

Northampton, Mass., August 15th, 1848.

REVIEW OF THE JUNE NUMBER OF THE AGRICULTURIST.

To Prevent the Ravages of the Turnip Fly.—If a system of culture can be adopted to cure this evil, it will be better than any doctoring of the seed or young plants. To this end, I recommend a top-dressing of ashes upon a grass sod, this year, very heavy, and for a crop next year, break up, and, if possible, yard sheep and cattle upon the ground for several weeks; during which, apply several dressings of lime, and then harrow without a second plowing, and sow the seed mixed with radish, as recommended, and I doubt if you have flies enough to eat up the radishes, and you will have a great crop of turnips.

Notes on Long Island, No. 3, Centre Island.—I am not aware what the original fertility of Mr. Smith's farm might have been, but certainly some 25 years ago, the crops upon no part of this island were equal to what you state them now to be. Your article would therefore be more interesting, if it had stated more minutely the process of Mr. Smith in bringing his land up to its present state of fertility, by which he obtains such bountiful crops. For there is abundance of land upon Long Island as capable of renovation as Centre Island; and if it can be done without too great an expense, it would prove a great blessing to a great number if they could be told how, and induced to do it.

We want a few more such men as Mr. McCoun, to leave the city, and help renovate the worn-out lands of this lovely island.

Protection of Buildings from Lightning.—Reader, turn right back to page 171 and read this excellent article. Study it thoroughly. It is a well-written article upon a very important subject. In regard to capacity of a rod, I do not think that a half-inch copper rod is at all requisite for an ordinary farm house or barn. [When properly constructed, and well put up, experience has proved this capacity to be abundantly large]. As it possesses the capacity of at least five iron rods of the same size, and as it is well known that an iron rod of five eighths, or three fourths, of an inch diameter is sufficient, I would venture to recommend a smaller copper rod, say three eighths, or even one fourth of an inch, when very short; or, what would be still better one copper rod of one half, or three fourths of an inch in diameter. The ends of the rods should never be linked together, but joined with a screw, one into the end of the other, or else, by a female screw as a boss over the ends of the adjoining rods. I fully agree with the editor, that iron rods, coated with metal, say tin or copper, would be better than paint, but I don't believe that a three-fourth inch iron rod, painted, would fail to be a good conductor 40 or 50 feet. [A rusty iron rod, or one covered with ordinary paint, is no better than one made of wood]. As to fastening the rod to the house with iron staples without isolators, I cannot recommend without more light upon my own mind. [The electric fluid is not much inclined to leave a clean copper rod, and run off at right angles on a rusty iron staple or wire]. But I can recommend trees, planted near buildings, as good conductors, and very cheap ones too.

Butter Making.—Never was a more sensible, plain, common-sense article written upon this subject, than the one to be found at page 173 of this volume. Butter, thus made and packed, will keep forever. I've tried it.

Cast-Iron Garden Chairs.—I notice this article only to suggest and recommend the "getting up" of iron chairs for household use. They could be made of tubes, so as not to be very heavy, nor very expensive, and yet exceedingly durable, and when broken, the material would still be worth, at least, as much as "old iron." In fact, I think garden chairs would be thus made cheaper and better than of cast iron. There would be one great advantage of iron chairs in hotels, steamers, and other public places; they would utterly set at defiance Yankee bargain makers, and Georgia tooth picks—in other words, they could not be "whittled."

Garden Implements.—Small specimens of a great many curiosities to be seen in the great "Agricultural Museum of New York City." *Admittance Free!*

The Cow—Her Diseases and Management, No. 2.—Read carefully the extract from Barlow's poem, and practice upon it, and you will rarely have occasion for the recipes for physic doses. But if you do, I have no doubt but they will be found to be valuable and well worthy of preservation, as they may be needed for future use.

Farmers in the Ascendant.—I wish this caption was more true. But notwithstanding that our legislature was composed of three times as many farmers as lawyers, such is the power of superior education, that the minority are, were, and will continue to be, in the ascendant, in spite of numbers, until the education of farmers shall be so improved as to enable them to ascend to the very pinnacle of the law-making power of our country.

Artificial Swarming of Bees.—Mr. Townley has given a very interesting article upon this subject. I will add one item to it. The past spring, I had a strong swarm in one of Weeks' hives, and I inserted one of the largest-sized drawers in the chamber when the bees first began to work, in which were several pieces of dry comb, to serve as guides. The body of the hive being full of old comb, the bees went directly to work in the drawer, and the latter part of May, I found the drawer full of bees, and withdrew it and inserted it in an empty hive at the time many bees were abroad. Then I moved the old hive, and put the new one in its place. The result was, that I had the satisfaction of seeing the workers return and enter, and the new colony go on at once, without loss of time, to make the best of their new home.

Construction of Farm Cottages.—It has been quaintly remarked that the degrees of civilization of any community were marked by the quantity of soap used. But it is much more strongly marked by the appearance of their habitations. And there is no subject with which a few pages of the *Agriculturist* can be filled every month, that is of more importance than such articles as the one now under notice, wherein various plans of buildings, suitable for the farmer, or country resident, might be illustrated. For a farm house, whatever may be the fashion, or appearance of the exterior, size, or num-

ber of rooms, the real old-fashioned, great, roomy, well-ventilated kitchen, and comfortable fire place, should never be dispensed with. [In parts of the country, where wood is scarce, or where coal is exclusively used for cooking, such a fire place, however comfortable it may be, can be of but little use]. Let this but accompany all your plans, and then give us a new one with every number.

Yankee Farming, No. 5.—Verily this Sergeant Teltrue hath heretofore buried his talent in the earth, for which he is not blameless. Nature has endowed all rational men with a faculty, that, in some degree, they might minister to the happiness of some of their fellow creatures. This faculty is most eminently developed in the Sergeant, in his most inimitable manner of conveying instruction, blended with amusement upon the subject of "Yankee Farming." Laughter is a great promoter of health, as well as of mirthful happiness; and he who hath the power to cause his neighbor to laugh and be happy, or healthy, and yet neglects, or refuses to exercise that power, "doeth not as he would be done unto." This power Sergeant Teltrue certainly has; and I hope, since he has found it out, that he may long live to reap the enjoyment that such minds as his ever feel, when they perceive the happiness that they have created. And I hope I may live to see the day that I can take him by the hand, and thank him for the share of enjoyment his articles have given me.

How to Manage a Kicking Cow.—This method is cheap, simple, and easily tried, and is worth to the dairyman ten years' subscription of the Agriculturist. And *How to Preserve Eggs*, ditto.

How to Make Doughnuts.—I certainly have expressed disgust at badly-fried nut cakes, but not half so much as I feel. Bah! the nasty lumps of greasy dough! But such doughnuts as "E. S." has tendered me an invitation to partake of with her, in her extremely neat and comfortable home, at Christmas, are not at all disgusting to me. And I here tender her my thanks for the recipes; and, as for the invitation, I certainly hope to have the very great pleasure, on the 25th day of next December, of showing her how much I appreciate that, by showing her a stout-built, middle-aged, plain-looking, gentleman, black hair, just on the turn towards grey, and a pair of pretty bright eyes, always grey, ruddy complexion, and an appetite for friendship and Christmas "doughnuts," whom I shall introduce to her as your friend, REVIEWER.

PIPES FOR UNDERDRAINING.—We understand that our enterprising countryman, John A. Delafield, Esq., of Geneva, has recently ordered from Europe a machine for making pipes for underdraining, of the most approved and latest construction. We hope this is so, not only for the benefit which will result to Mr. D., but to the whole American community. While millions of pounds sterling have been expended in England and Scotland for the draining of lands, which have been improved probably more than four times the cost of the outlay upon them, we, the citizens of the United States, so full of enterprise on many other points, are perfectly stationary on this. This apathy is as unaccountable as it is inexcusable, and we trust the reproach with which our agriculturists are so justly

chargeable on this important subject, will soon be removed by some well-defined and enlarged experiments. We should like to hear from Mr. Delafield on this subject, or any of our correspondents. It is one of vast interest to every part of the country, on the low, wet lands of the south, equally with the cold, moist lands of the north.

COLD-WATER BATHING.

I HAVE read with much interest the excellent article in your August number on the advantages of cold-water bathing, regretting only that the writer omitted to point out the means whereby people living at a distance from "the sea, a clear river, lake, or pond," may obtain the much-prized luxury of complete, daily ablutions. Those who have not noticed the article, are advised to turn to page 246, current volume; read it attentively, and profit by the advice therein contained. The directions given will be acknowledged to be good by every one who has been accustomed to the health-giving, invigorating, but much-neglected exercise of swimming; which, I will add, by the way, ought to be considered an indispensable part of every young person's education. Girls, as well as boys, ought to be systematically taught to swim; thus rendering them more hardy, and capable of taking care of themselves when in the water, instead of their present fashionable state of dependence upon the ruder sex; and in cases of emergency, such as constantly occur at bathing places, and elsewhere, making them instrumental in saving instead of endangering the lives of their fellow creatures.

My object in asking leave to fill a column in your journal, published "for the benefit of farmers and others," is to point out some of the appliances and means whereby the inhabitants of our rural districts, with limited means, may, without much trouble, or expense, procure this great comfort for themselves, their wives, and children, when remote from free water, and at seasons when out-of-door bathing is impracticable; for though more pleasant in summer, it is not less necessary in every season, to preserve health by perfect cleanliness.

As to the best time for bathing, from long personal experience, I prefer the early morning bath. First, because it secures cleanliness for the day, which, if deferred, may be prevented in various ways. Secondly, because, for persons in delicate health, it is considered most beneficial, being a frequent prescription of physicians for debility and nervous complaints; and, thirdly, because it saves the time that would otherwise be devoted to a second entire change of dress, which, in winter, and moderate weather, is seldom desirable.

As this is written for plain, practical people, I shall pass with a slight notice, the luxury, but not the necessity, of having a room appropriated to the purpose, with its not unfrequent accompaniments, plunging baths, hot and cold, their trained attendant, the shower bath, and the sofa whereon to repose after the exercise. I will pass over the neat, modern portable shower bath, with which every house, nay, every chamber, may be furnished for a few dollars; and speak of those only that can be easily and cheaply provided.

Every farm house must have, at least, one large tub in it. Those who can afford it, should have

one made for the purpose, six feet long, two feet wide, and three feet six inches deep, in order that the shoulders may be covered with water, when the sitting posture is used. Those who cannot afford this, may use the great tub that is kept for scalding hogs in, which answers admirably. This, placed in an out-house, or shed, that can be shut from sight by a curtain, or temporary screen, should be half filled with water every evening. If a later bath is preferred, let it be filled earlier, and, if the water is too cold, let it stand for several hours in smaller vessels, exposed to the sun; or add a few gallons of boiling water. I never take, nor advise, a bath below 60°F. When the bathers have done with it, the water can be used for washing, scrubbing, or watering the garden. A shower bath can be made at an expense not worth estimating in this way. Enlarge the bung hole of a small barrel (an old churn will answer finely); lay it on pivots on which it will turn freely, in a box a few inches wider than the barrel; make a hole in this box to correspond with the one in the barrel, cover this hole with a plate of tin, painted, to prevent it from rusting, and perforated with *very small holes*, or the water will fall with too much violence on the head. Fasten a rope over the barrel, with the ends hanging within reach of your hands, when standing under it; one end to draw it over, and the other to pull it back by; then suspend the whole from the roof of a shed, or the ceiling of a room, so that you secure a fall of about two feet above the head, and you have one as effectual and complete as if it cost twenty dollars. Two bucketfuls of water is as much as ought to be taken at once; therefore, the barrel once filled, will last for several persons.

The "sheet bath" is preferred by many people, to any other method of applying cold water to the person, and is certainly accessible to every one, being nothing more than to sit down in the largest tub you can get, wet a coarse sheet, and draw it over you, head and all; wrap it closely about you for three to five minutes; then throw it off, replace it with a dry one, and rub until a glow is produced. As a last resource, when nothing else can be procured, take the following method (any thing will do better than allowing you to think you *cannot* bathe); put on a loose garment, and take your seat in, or on the edge of the trough under a pump, and let some one pour over your back and shoulders two or three buckets of water; then throw over you a dry, coarse sheet, drop the wet garment, put on a wrapper, or cloak, if the weather be not very hot, and run to your chamber to rub and dress.

Before going into a bath, always wet the face, breast, and back of the neck; and when you rise from the water, put on instantly a loose wrapper of warm cotton, to absorb the water; then wipe and rub your feet, and put on slippers. This will prevent the chilliness that sometimes come on while you are using the rubbers and towels.

During my residence in Ohio, I knew the wife of a farmer, who, with his boys, worked his little farm, and lived comfortably by dint of the most persevering and patient industry. This woman had been born and educated in one of the Atlantic states; and she considered the daily bath of so much importance to health and comfort, that in all her difficulties it was rarely omitted. Her log house

was small and inconvenient, consisting only of two rooms and a wood shed below and three small chambers above. The kitchen, as in most farm houses, was the largest room, and, in one corner of this, she had placed for the winter, a hogshead cut down, and screened from sight, when in use, by a bed cover hung from the joists above. In the summer, it was in the wood shed; and in this primitive kind of bath, she dipped, first the children, and then herself, every morning, while the men were feeding the stock, and the kettle on the fire preparing for breakfast. Her neighbors sneered, and wondered how she could take so much time, and before breakfast, too; but she said, good naturedly, that in twenty minutes all was finished, and comfort and cleanliness secured for the whole day; and, certainly, a more healthful, merry set of children never rewarded a mother's care.

Now, Mr. Editor, I trust I have not written in vain. The article upon which these remarks are founded must have convinced the most prejudicial of the healthfulness of the practice of using cold water daily, and freely. This, as before stated, will point out the means, and leave no excuse but *laziness*, which few will urge in favor of unclean habits in themselves and others. * M. *

PERIOD OF SUCKLING YOUNG ANIMALS.

THERE are thousands of planters in the south, who would read the article on this subject at p. 221, in the July number of the *Agriculturist*, with condemnation; because there are few who have ever weaned off any description of farm stock. Their mares are fed till the ninth day, and the colts suckle until the mare weans them; likewise cows, hogs, sheep, &c.; and yet, no one ever has thought, as did Sir Matthew Ridley, for they would think that Sir M. R. only spoke from hypothesis. I have weaned off all kinds of stock, and I have suffered all kinds to run with their dams, and the losing of all, or of one fiftieth, at four months, or any other age, never occurred. This day, I weaned off twenty pigs from three sows; but it was with the view to avoid feeding them so high, as I wanted to push my pigs. I have seventy-one other pigs that weaned themselves, running in the woods. Since the farrowing of these, I have lost some two or three from various causes. Had they been in the order of my twenty, I would have lost more. Fat pigs die off faster than poor ones in this latitude. Some think they are peculiarly subject to the *knife* fever, with whom I agree. I can show now as pretty calves as any one can, and I have no doubt some of them will suck until a month of their dam's bringing another calf; nor have I lost a calf in seven or eight years, since I had a pasture for them. I have ten or fifteen calves dropped a year, 75 to 150 pigs, and 20 to 40 lambs. Sometimes I separate them, but as to cut stock, never, unless it be sheep.

There are many men south, who would throw down your paper, and condemn it at once, from reading your account of that "meeting." They think from raising from one to one hundred young per year, that it is gammon to talk of young dying from sucking too long. Owners of 5,000 cattle, they would say, would soon be "cowless," if the doctrine were true. Camanche ponies would

soon be "all but a dream, at the best." As for rabbits, and wild animals, What of them? (a)

If you want a choice pig, wean it at four weeks, feed high, and it will be worth any two of the remaining six or eight; because it has an abundance, whereas, the others have not; and if allowed to suck, and yet fed equally high, it will not eat so much, but depend more upon nature's beverage and will exercise too much. A colt, or a calf is not so easily taken care of; and a lamb, though easier to be provided for than the colt, will not attain the same size. These are the opinions of

SOUTHERN BACKWOODSMAN.

(a) That cattle, swine, and horses, as well as all kinds of wild animals, will propagate and rear their young in a state of nature, without the aid of man, no one will pretend to doubt; but the most common knowledge of breeding our domestic animals shows, that, with proper care in regard to fixing the season for the males to cohabit with the females, the choice of food for the latter during their pregnancy, and the regulating of the aliment of their young for the first few months of their growth, they are more healthy, attain a larger size, and are superior in every respect. For interesting remarks on this subject, see pp. 31, 60, 127, of the present volume.

ACTION OF WATER ON LEAD PIPES.

SOME few months after the introduction of Croton water into our city, my attention was called to investigate its action upon the lead pipes which were used to carry it into dwelling houses, &c. In several instances, I detected lead in the water which had stood in lead pipes over night, in situations where free use was made of the water during the day, and, in some instances, this daily use had continued for several weeks.

I have also found notable quantities of lead in Croton water, which I drew from a lead pipe in the third story of a house, at least a year after the pipes had been fitted in the house. The water was but seldom used from this pipe, and that which I drew from it for examination, had probably remained in it for more than a week. Subsequent to this, I made a series of experiments, with a view to determine the action of Croton water upon pipes made of pure lead, and of alloys of tin and lead, and also those made of lead coated with pure tin, after the plan of Mr. Ewbank. These pipes, of some thirty or forty feet in length, were filled with water brought in a cask from the Croton River. The water was displaced from the pipes by admitting a fresh supply at intervals of a day or two, for three weeks; and that which escaped was tested each time. The result proved that the water which passed through the lead pipe always contained lead, while that from the pipe made of the alloy of tin and lead, as also that from the pipe coated with tin, both upon the inside and outside, did not contain a particle of lead, but for the first few days yielded a trace of tin.

It is possible that the water, in passing rapidly through a lead pipe of moderate length, in constant use, may not become so impregnated with lead as to be injurious to health. But there are hundreds of instances where the pipes are conveyed to the

second and third stories of houses, where the water is seldom used, but from which the servant may find it convenient to fill a pitcher. The internal use of the water from such situations, I have no doubt, is highly injurious, and manifests itself by tremulousness and general debility of the nervous system.

JAMES R. CHILTON.

New York, June 12th, 1848.

MANURE FROM THE OCEAN.

WE were forcibly struck, while spending a few days, last season, in the pleasant neighborhood of New Haven, Conn., with the uniformly magnificent fields of Indian corn, that everywhere met the eye. From the constantly varying surface of hill and dale, rocky eminences, and marshy plains, and the number of small, landed proprietors occupying them, the fields, though numerous, were not extensive. But they were invariably of the most luxuriant growth, and would yield from 50 to 80, and perhaps 100, bushels of shelled corn per acre.

This luxuriance was almost exclusively the result of the application of fish and sea weed. The latter is thrown upon the shore by storms, or, what is more usual, is gathered from the rocks, *far below the surface of the water*, by those who make it a business during the proper season, for the purpose of selling to the farmers. The fish are principally the mossbunkers, that come upon the whole eastern coast in countless shoals during the summer months. But with these a great variety of others are brought to shore in the capacious nets that are used. We saw young sharks, of considerable size and number, among vast multitudes of others that were taken at a single haul; and we thought them much more appropriately employed in feeding corn to feed children, than feeding on them.

The practice above noted, has raised the price of land from \$15 or \$20 per acre, to \$75 and \$100. It shows, conclusively, the advantages to be derived by an intelligent husbandry, whose attention is awake to every object that can be enlisted for the promotion of its interests.

THE WAY TO INDUCE SOUTHERN PLANTERS TO IMPROVE THEIR LANDS.

EVERY sincere friend of America would be rejoiced to see the north, the south, the east, and the west enter into a spirited improvement of their land culture, morals, intelligence, good feeling, and, in short, enter fully into the spirit of elevating the standing of the American character. Now there are no two men in our land who are more desirous, and who labor more for this end, or with greater zeal, than do our R. L. Allen and our "Reviewer." The south requires a great stimulus, and all our country might take a small dose without any injury; and I think the true and only plan is, to let time work its way. We must remember that it is only a few years since New York, Massachusetts, and others began. They had to be forced into it by necessity and an abundant population; and it is doubtful, to at least one, if the south has not improved in about an equal ratio. From an intimate knowledge of the entire south, I feel justified in saying, that there has been a vast improvement within the past ten or twenty years. Improved im-

plements, improved stock, better culture, more thought, and better crops are the result.

Fifteen or twenty years ago, five or six bales of cotton was considered an excellent crop; corn was worth scarcely ever less than 50 cents per bushel; now 6 to 8 bales is not deemed very excellent; corn can be bought in the same county at 25 to 37 cents per bushel. There are laggards in the field, and so there are everywhere; no apology for any one to be thus, because there are such at "Reviewer's" elbow; but still, to encourage others, due credit ought to be given. Five years ago, 30,000 bushels of corn from foreign parts were needed, in a small scope of country; now, very little corn will sell there; a few, comparatively, have to buy, but the many raise a surplus.

The south has not been forced to seek shelter in her resources; land has been cheap, and our erratic disposition, as a people, forces us off to search new homes; this is a weakness, I think, but it belongs to the nation. A part of the south is worn out, and their citizens are forced to exert themselves. They are moving and will soon be on the way.

Improvement in agriculture must work its way very shortly; the south is sparsely populated, and it needs a general system of education. Educate the mass, and you at once overlook prejudice and intolerance. The uneducated are exceedingly jealous. They think every one desires to take an advantage. They fear every new thing is intended to cheat; old ways must linger on until the younger part of our population are enlightened, precisely what all centuries have passed through. We must not be impatient; let us labor on hoping for all things good. I can show fields of corn, that will average over 30 bushels per acre, whereas, ten years ago, on the same farm, 15 bushels was the average. This is no solitary instance, and the fact of an increased demand will cause an improvement.

CHEROKEE.

DRAIN YOUR LANDS.—Let not a particle of stagnant water lie on the surface, nor under the surface of the lands you cultivate. One of the best of all blessings is pure wholesome running water. But see that it is running, and not stagnant. The latter destroys all useful vegetation, all economy in working the land, all health, and all beauty of landscape. It is the loss of everything as far as it extends, and breeds malaria and disease for cattle, and all domestic animals, equally with man. Manures are inoperative upon wet or moist lands.

Do not content yourself with removing what is on the surface, for stagnant water, just below, is frequently equally prejudicial with that which is visible. This may be removed by under, as the former by surface, drains.

ACTIVITY OF THE VITAL FUNCTIONS OF PLANTS.—Many plants and fruits mature better and more perfectly after removal from their natural condition, than when allowed to continue in it. Wheat, oats, and many other grains fill out better, and make a finer quality of flour, than if allowed to ripen while standing in the field uncut. Many specimens of the pear are richer, more juicy, and higher flavored, if plucked and allowed to ripen when spread upon a table in the shade; and numerous species

of both these and apples do not ripen for months after they are picked. Cabbages and celiery will continue fresh, and add to their growth for months after being removed to the soil of a suitable cellar.

STEAMING FOOD FOR CATTLE.

If the nourishing particles contained in straw, in its compact state, and which, especially on account of their great quantity, cannot be dissolved by the animal organs of digestion in the short space of digesting and ruminating, are prepared and rendered more digestible by being previously boiled or steamed, they will be found to give the cattle a much greater degree of nourishment.

Setting out from this undeniable position, there have been established at all the larger farms at Alscúth well-constructed steam apparatus for steaming the cut straw before its being given to the cattle; that is, for boiling it in hot steam, in order thereby to change it to a fodder at once more digestible and nourishing.

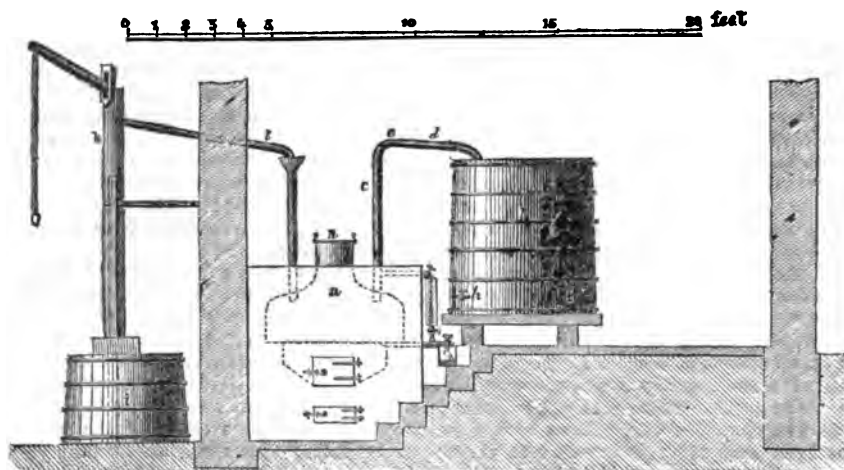
The following is a description of the apparatus:—The upper boiler *a*, fig. 83, is 5 feet in width below, its bottom trailed up 9 inches, and the sides are 15 inches high to the bend. The steam is conducted from the boiler into the casks *b*, *b*, by means of a pipe *c*, which leads into two arms *d*, *a*, and which, by means of two stopcocks *e*, *e*, give the steam an outlet into either of the vessels. The casks made of pine wood are in form of a cone; they are bound with hoops of iron, and are placed with their wider bottom upon stone sockets one and a half feet high. These casks are 7 feet high; their diameter is 7 feet 6 inches below, and 6 feet 10 inches above. In the top of the casks is a round opening at *f*, 15 inches in diameter, which serves to fill the casks with chaff from the loft above. There is also on the lower side of the casks a square opening *g*, by which the chaff, when steamed is again taken out. To both the openings are covers of wood, which are trimmed with coarse cloth, or strong linen, and which are fastened by wooden or iron cross rails, so as to keep the openings the better closed. The small copper pipes marked *h*, serve for the escape of the steam after it has completely penetrated the chaff. Finally, behind the boiler, stands a wooden vessel *i*, which is placed in the earth, and which is loaded with beams; and from this vessel, the water contained therein is conducted into the boiler by means of the pump *k*, and the funnel pipe *l*.

The chaff is steamed either by itself alone, or it is previously mingled with potatoes cut into small pieces; in the latter shape, it is used as fodder only for cattle. The chaff is to be one half wheat and the other half oat straw. For horses and sheep, it is cut half an inch long, for cattle, a full inch. The hay of second and third qualities is likewise cut into chaff and mixed up with the chaff straw; it is put into the steam casks, whereby its taste is improved and its nourishing power much enhanced. A steam vat holds from 750 to 800 lbs. of chaff. For cattle, there are mixed to one barrel of chaff three bushels of potatoes. Within an hour, the whole is steamed, and 30 such decoctions require, for firing, one half cord of hard wood. One man is sufficient to tend to the apparatus.

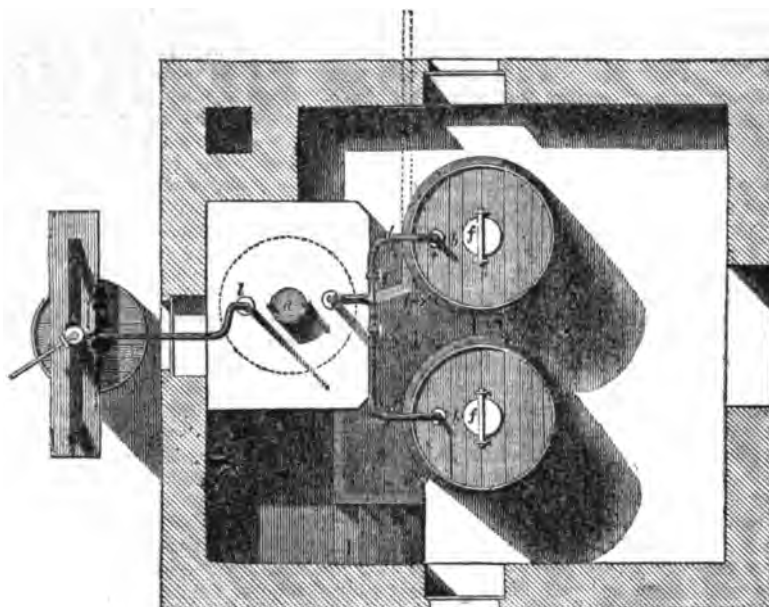
An apparatus so extensive and costly, to be sure.

can be made use of only where there is a large consumption of chaff fodder; but, on the other hand, it will unquestionably give rise to a very material change in the system of supporting domestic animals. Although it is plain, at the very outset, that these fodder arrangements are sure to give their projector a great profit, yet there is another question to be settled beforehand, namely,

how will the health and breed of cattle, in the course of time, ultimately be affected by this system of feeding? It is evident no decision as to general introduction of chaff feeding for the whole stock of the manor can be arrived at except by a very careful examination and consideration of the subject, and by previously submitting it to the test of experience. This trial was made, and it was



APPARATUS FOR STEAMING FODDER.—FIG. 83.



HORIZONTAL PLAN OF THE ABOVE.—FIG. 84.

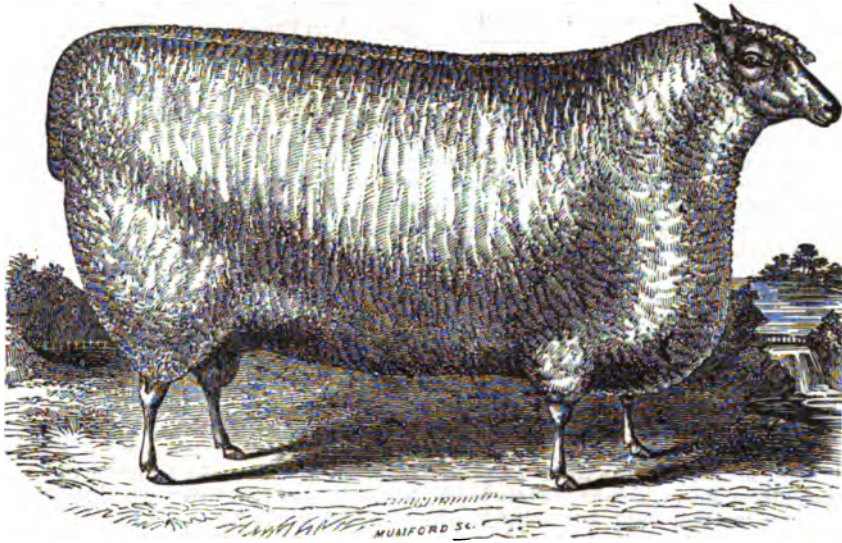
found to succeed well; the system was generally introduced, in 1839, and two years thereafter, the measures taken by the director of Alscúth, were fully justified by their good success. For the animals fed chiefly with steamed chaff, continued in excellent health and condition; and the liveliness

which the cattle showed, both in the stall and in the yoke is a clear proof that the food answers in the most perfect manner all the requirements of the animal organism, both of cattle for draft and breeding cattle.—*C. L. Fleischmann, in Patent-Office Report.*

ROUGH NOTES BY THE WAY.—No. 2.

On my way up the river, I visited the farm of Mr. Clayton B. Reybold, four miles from Delaware City, in the state of Delaware, in order to see his celebrated flock of long-wooled New Oxfordshire sheep, of which I had heard much, but of which the truth has not always been told. It has been stated, I know not on whose authority, that they are coarse in their form, as well as in their wool. But this is not so. His four-year-old buck, of which fig. 83 is a faithful portrait, weighed, with his wool, on the 15th of May last, 361 lbs. The weight of his fleece was 14½ lbs.; girth round the body, after shearing, 5 feet 9 inches; length from the tip of the nose to the root of the tail, 5 feet 10 inches.

The fellow of this buck died last spring of yellow water. The weight of his fleece, second shearing, was 17½ lbs.; and his carcass, when dressed, weighed 206 lbs. These bucks were selected, in England, by Mr. Reybold, at 40 guineas each. He also purchased, at the same time, six ewes, and has others now on their passage of the same breed; but those who buy must not always expect to get sheep of the enormous size of those named above. For the same care and attention are not observed in breeding in this country as in England. The climate there is considered as cooler and better for sheep than ours, and the turnip crop here is by no means a sure one, and this or some other root crop is all-important as winter food for sheep; and besides, our farmers in general appear



NEW OXFORDSHIRE BUCK.—FIG. 83

to be unwilling to encourage the raising of fine stock of any kind. Hence it is, that so few are to be found who will take the trouble of a voyage across the Atlantic, and pay \$200 for a sheep besides the risk and other expenses attending importation.

I hope I may be excused, if I say a few words concerning the farming operations of Major Philip Reybold, father of the above, as well as of the other members of his family. He has twelve children, all married except two daughters. He has retired from the old homestead and built an elegant new mansion upon an elevated spot of ground, from which he can view, patriarch-like, the dwelling of each of his sons, who, together with their sisters and brothers-in-law, own 8,000 acres of choice and highly-cultivated land, a considerable portion of which consists of reclaimed salt marsh. One large tract, that had been diked and under cultivation for nearly half a century, and had become completely worn out by injudicious and successive cropping, was caused, a few years ago, to be overflowed again by the tide waters of the Dela-

ware, by opening the dykes, and left in that condition for five years, when it was found that a deposit three and a half feet in depth, had been formed over its whole surface. The water was again shut off by closing the dykes, and the land sown with Timothy, which took well, and is very stout on two thirds of the tract, but on the lowest parts it entirely failed, and herdsgrass (red top of New England), came in without seed and now (July 18), is yielding a crop of two tons or more to the acre. There is also a mixture of white clover throughout the whole tract. Query. Where do the red top and white clover seed come from? Whence are they derived? Upon what principles do they originate? (a) Ray grass does well on these lands and is excellent for early and late soiling feed, but is worthless for hay. There is also another grass natural to these meadows, upland as well as marsh, which is here called "green grass," which grows very thick and retains its verdure all winter.

According to the analysis of Mr. William M. Uhler, made under the direction of James Booth, Esq.,

Geological Surveyor of Delaware, the fore-named deposit from the river contains the following ingredients :—

Protoxide of iron,	6.609
Silica,	64.600
Alumina,	12.510
Manganese,	trace.
Lime, combined with sulphuric acid,	0.311
Lime,	0.170
Magnesia,	0.860
Soda,	0.404
Potassa,	0.465
Phosphoric acid,	0.982
Sulphuric acid,	0.485
Chlorine,	0.140
Organic matter,	6.080
Water,	5.500

99.116

This soil is considered as of the first quality and contains all the elements essential to fertility.

The Messrs. Reybold are still going on draining these marshes, and for the purpose are erecting windmills to pump out the water, of which I may speak more particularly hereafter. Mr. John Reybold has erected one to supply his spring house with water. Of their dairies, I examined only one, consisting of 48 cows, from which were made and sent to market, in the month of June last, 1,225 pounds of butter. Among these cows were some young heifers, a few strippers (cows nearly dry), while there were others suckling their calves; so that, with what milk and butter were used in the family, 40 of the number would be a fair estimate, yielding within a fraction of a pound of butter to each cow per day. Some years since, Mr. R. purchased an entire herd of Holstein cows of a person who imported them, from which he has been breeding ever since, crossing them with other blood, mostly Short-Horns. Had he been careful in preserving a thorough-bred strain of the Short-Horns, now, with his rich pastures, he would probably have had a herd superior to any in America. The cows, however, on all the farms, are generally good, but more pains ought to be taken in breeding.

Mr. R. puts up his butter in half-pound blocks in boxes 12 by 18 inches and 2 feet deep, shelved all round the inside with six shelves, one above the other, having a copper tube, 6 inches in diameter, in the middle, which is filled with ice. In the lower end of this tube and also in the bottom of the box, there are holes to let off the water formed by the melting ice. In this manner, the butter is sent to the Baltimore and Philadelphia markets, where it sells readily for 25 cents per pound. The churn consists of a revolving cylinder, holding from 100 to 120 gallons, not quite so long as a hog-head, but larger in diameter, and less bulging in the middle, and is worked by a windmill. The milk house is half under ground, having a cemented stone or brick floor, with streams of cold water, constantly running through broad, cemented gutters, two or three inches deep, all about the pans. The milk of one of the other dairies is made into ice cream, which is sent to market with the butter. As it was six o'clock, of a hot afternoon,

much fatigued with the labors of a long day, I did much better justice to myself in testing the qualities of the ice cream, than to the owner thereof.

The peach orchards of Messrs. Reybold are notorious throughout the country. The trees are generally planted about 20 feet apart, with the branches interlocking each other, and are loaded with fruit, presenting the appearance of a forest. They sent to market, last year, upwards of 90,000 baskets, and this year, 1848, they think that they will have double the quantity! Mr. Clayton Reybold, the owner of the sheep before described, has about 400 acres of land, a part of the old homestead, where he has a peach orchard, on which he employed, last year, two yokes of oxen, five pairs of mules, and other hired teams in conveying his peaches to market. Much of the labor of gathering the fruit is performed by mechanics and other people, from Philadelphia, who come more for a pastime than for profit. They live and sleep, during their stay, in a large building on the farm, which is occupied a part of the year for storing grain.

I am no agrarian, and have no disposition to see this large estate cut up and divided among those who have been less successful in accumulating wealth. Such a numerous and enterprising family, with such industrious and economical habits, who have shown themselves in so striking a degree, I for one, wish to see them live and prosper together. I have said nothing of the sons-in-law, not having had the pleasure of meeting them at their houses. I understand, however, that they are contributing their full quota to the prosperity of the concern. One of them, a Mr. Clark, is a very successful agriculturist, and is president of the Delaware State Agricultural Society. There is one thing, however, which I wish the reader to understand; that is, the repeated observations which I have made, from time to time, in the *Agriculturist*, of too much land, does not apply here; for, although the farms are all large, they are well cultivated, and produce fair crops.

SAMUEL ALLEN.

Delaware City, July 19th, 1848.

VALUE OF URINE.—It is calculated that the urine of the twenty millions of inhabitants of Great Britain, if saved and applied to the growing crops, would be worth annually, \$25,000,000! This would be equal to 500,000 tons of Peruvian guano, valued at \$50 per ton! What an item to be saved among the farmers of that country; yet, it nearly all goes to waste there. In the United States, it is still worse; for we save comparatively but little from our domestic animals, whereas, in Great Britain they save a great deal.

(a) The subject of the apparent spontaneous growth of vegetation has been a theme of much speculation, and has drawn out many curious facts useful to be known, without arriving at any definite or satisfactory results. The following article on the Spontaneous Growth of Vegetation, although not according, in all respects, with our own views, contains some interesting information on the subject, and is well worthy the perusal of all those who are engaged in speculations or investigations of the kind.

REMARKS ON THE SPONTANEOUS GROWTH OF VEGETATION.

WHILE editing the Farmer's Gazette, a few years ago, I took occasion to throw out some facts and reflections under the head of the "Spontaneous Growth of Forest Trees, Grasses, and Other Vegetables," for the purpose of eliciting further discussion among my readers, on the physiological principles of vegetation. Believing that you may find it a topic suitable for your journal, I take the liberty to offer the substance of my reflections, which may not have come under general observation.

There is something seemingly inconsistent in the established principles of vegetation, in the succession and apparently spontaneous growth of trees, grasses, and other vegetables; by the springing up of a new crop without the planting of seed. These occurrences take place without the ordinary aid of human instrumentality. They are, so far as we can ascertain, natural or spontaneous productions. In the "Memoirs of the Philadelphia Agricultural Society," there are named many well-authenticated instances of this sort. New grasses, new plants, as well as trees, are found to spring up in recently-cleared lands, without the planting of scions, or seeds, and where no seed, nor trees, of those species could be found to have previously existed in any part of the country surrounding. Go into a wilderness, twenty miles from any clearing, or tract under cultivation, or where there is a growth of clover, and cut away the timber and brush, so as to let the rays of the sun to the earth, and the second or third summer after, without moving the surface of the soil, a luxuriant crop of white clover will cover the ground. The application of a light sprinkling of plaster, also, without stirring the soil, even in an old, worn-out field, will cause white clover as well as red, to spring up luxuriantly, in a few months, where neither seed nor root of their kind had been known to exist for ages.

In New Jersey, and most of the states south of it, large forests of pine, exclusively occupy extensive tracts. Cut away the pine, or burn it off, and let the ground lie for a few years, untilled, and a new forest, almost entirely of oak, will spring up, and cover the whole clearing, where, previously, neither an oak nor an acorn had been seen or known to exist within many miles. Nurseries of young oaks, formed by nature, in this way, are also found in the centre of extensive forests of pine.

In other instances, pine has been known to succeed trees of other species. In the course of the last century, white pine was known to spring up spontaneously, or without any planting, in Duxbury, Massachusetts, without having previously been known to grow in that vicinity. Sixty or seventy years ago, a man was living in that town, who remembered the first pine tree that appeared in that region. Yet, about forty years since, pine constituted about one eighth part of the timber of that section.

The late Judge Peters, says, that, in South Carolina, in 1802, a disease commenced in the pine woods, that destroyed large forests, which have since been succeeded by a growth of hickory and oak; and that a total change of timber occur-

red within his memory in a tract of his own, of about 800 acres, in Northampton county, Pennsylvania. "Previous to the revolution," continues he, "I knew it to be covered with pitch pine. It was called the pine tract. The first growth of timber was blown down by a tornado, and consumed by the fires of the woods, a mischievous practice which was common in that quarter. It is now entirely re-clothed with oak, hickory, and other valuable, well-grown, and thriving timber, and scarcely a pine tree is to be seen." He also knew, as he says, "a grove of white pine thrown up spontaneously in old fields, where no timber of that species had previously grown, and far from any such trees."

In the state of Ohio, I have noticed, and believe the same occurs in other beach and maple lands, that where the timber has been destroyed by tornadoes, the succeeding growth is wild cherry, with a mixture of white ash. Dr. Mease, formerly secretary of the Philadelphia Agricultural Society, says the same occurs in the beach and maple lands in Pennsylvania. He expresses an opinion that the growth of these kinds of timber began in 1794 or '5, and is of the belief that beech and maple succeed hemlock, and that the natural successors to beach and maple are wild cherry and white ash.

Numerous instances of this natural succession of trees, and growth of plants, occur under circumstances altogether irreconcilable with the known principles of propagation by scions, or by seeds.

Whence then are they derived? Upon what principles do they originate? Judge Peters and other writers, of Pennsylvania, believed they are a new and spontaneous production, brought into existence by the new order, or state of things, resulting from clearing and cultivation of the ground; and the effects seem to justify that opinion.

Every philosophical and chemical principle which is implanted in the vegetable creation, was originally the same that has since been developed by science; and to suppose that the production of plants, or trees, are, in any manner, inconsistent with the Mosaic history of the creation, would make a contradiction between the word and works of God, and amount to an impeachment of his immutable laws. But the truths and principles, expressed in the former, are completely corroborated by the latter.

Now, what were the inherent principles upon which grasses, herbs, and trees were originally formed, or made to grow? For they did not rise out of the earth instantaneously, at bidding, as Lazarus did, but *grew up*, as they now grow.

By chemical analyses, it has been ascertained that vegetables are composed of certain elements, or substances, which, by the influence of heat, light, and moisture, are made to assume and develop certain specific organic forms, as is manifested in grasses, trees, and herbs, in each of which is implanted, by the Creator, the principle, or power, of yielding seed and fruit after its kind. The elements and principles, or qualities, contained in the original formation of vegetation were precisely the same which are contained in the same kinds at the present day; because the seeds of both are alike "after their kind."

And what are the truths of Divine Revelation in this subject? From the Mosaic account, the order

which the Creator adopted was not first to form seeds and fruits, and cause those seeds to propagate, all over the earth, grasses, herbs, and trees, after the manner in which man propagates them. The distribution of the innumerable kinds of seeds, from any one place on the earth, into all the islands and remote parts of the globe, could not have been accomplished without extraordinary and miraculous agency, continued for ages after the creation was completed. But the creation of the elements which are contained in the vegetable world, and the establishment of certain principles in the earth and its atmosphere, which were to remain uniform and perpetual in their operations all over the world, whenever and wherever they were, by any circumstances, brought into combination, was the more natural, appropriate, and expedient mode of creation, and one which is perfectly accordant with that given by Moses. For "God said, let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself upon the earth."

The order adopted was, first, to cause the earth, by the established qualities, and the chemical and philosophical principles on which itself and its atmosphere were formed, to produce, by spontaneous growth, without seed, or scion, grass, herbs, and trees, which yielded seed and fruit after their kind. The trees did not first grow from created seed; for they were first made to grow out of the earth by the combination of certain elements, operated upon by certain established principles, and when grown, yielded seed, or fruit, after their kinds, in order that man might be able to propagate them when and where he pleased. The miraculous creation consisted, therefore, in the formation of certain elementary substances, impressed with certain principles, perpetually producing uniform results, under certain combinations adapted to those results. The present growth of trees, or other vegetables, in conformity to these original, established principles, is, therefore, though without seed, no new creation, but organizations under the continued operation of the same principles, by which the earth was "first made to bring forth grass, herbs, and trees, yielding seed and fruit after their kind." I am aware that oleaginous seeds may lie for years, perhaps for ages, in a dry state, or buried in the earth beyond the influence of the sun's rays, without vegetating. But that clover, nuts, acorns, or other seeds, should lie many years in old, worn-out fields, without sprouting, so near the surface of the earth as to be subject to the influence of heat and moisture, which invariably cause seeds to vegetate, and so near as to be brought out by the application of a little plaster, without stirring the soil, is irreconcilable with all the established principles of vegetation.

J. W.

New Haven, Ct., Feb., 1844.

ASPARAGUS may be covered with salt to the great advantage of its growth and perfection, and while ministering to the support of this plant, it will kill all others infesting the bed.

SALT is one of the most useful, and frequently the most economical, manures. It is beneficial to nearly every crop.

UNDERDRAINING.

PURSUANT to promise, I will give you a dissertation of my mode of constructing underdrains. The method which I now practice, is, to plow with a common surface plow, two furrows in depth, shovelling out the mellowed earth at each plowing; then by placing a strong pair of oxen, or horses, tandem, in the drain, and attaching them to a one-handed sub-soil plow, I mellow the ground, and, by repeated plowings and shovellings, the work is completed. By this method, at least 50 per cent. of the labor is saved that was required by the old process of picking and shovelling. The usual dimensions of the drains, which I have generally constructed by this process, is about three feet in depth, about two feet wide at the top, and about sixteen inches wide at the bottom. But I am guided as to size and depth entirely by circumstances, having, in some instances, sunk them to the depth of five or six feet, with economy and advantage.

I have also saved about one third of the labor usually required in filling my underdrains with stone, and returning the earth. The former, I have facilitated by the use of my premium farm truck, on which the stones are drawn to fill the drains. (See p. 308, vol. vi., *American Agriculturist*). This is done by commencing at the upper end of the drain, the operator standing in the drain, facing the work completed.

The truck is so low that the stones on it may be reached by the man who fills the drain. Thus, by means of this implement, the labor of one man, required by the old process, is dispensed with, and the work progresses more rapidly than before, from the fact, that by the practice of tipping the stone from the carts upon the ground, two men were required to perform the work. It frequently occurs, with the most skilful distribution of the stones that can be made, that some considerable portion of these require to be put into carts and moved again; but not so with the use of the truck; for only the quantity required is taken from it, the balance is drawn along to where they are wanted.

For the last eight years, I have placed the stone in the following manner, and have underdrained more or less every year, with good success. As before mentioned, I begin at the upper end of the drain to put in the stone, and commence, by placing those of medium size (say of the length of a man's hand, and approaching the egg shape as near as can conveniently be selected), entirely over the bottom, as close as they can be set without waste of time, setting them all upon the small end. By this means, the water is thrown into several meandering channels, and the force of it is broken, and its tendency to wash the sides and bottom of the drain is effectually prevented; but there will be more or less sediment accumulated in the drains, by the water washing in the loose earth upon the sides, and what little may adhere to the stones, which is conveyed to the lowest and nearest level portion of the drain, and deposited, until ultimately all the space between the stones is filled, and the efficacy of the work destroyed. I have discovered a plan which I have practiced for several years, with the fullest success, by which the accumulation of deposit is entirely prevented from obstructing the course of the water. This is done by digging small portions of the

drains, say eight or ten in length, at intervals of ten or fifteen rods, about one foot deeper than the general depth of the drain, and filling them to a level with the bottom, with small stones, over which the drain is filled as if they were not there. These serve as places of deposit below the bottom of the drain, and the pure filtered water runs off, leaving the deposit where it can do no harm.

After the entire bottom of the drain is paved with stones, of the size above named, the largest to be used are then to be thrown in promiscuously, taking great care not to cave in the side of the drain; then the next largest are used, and the work with the stones is completed by using the smallest that can be obtained, and levelling it off neatly; the whole depth of stone need not exceed 12 or 16 inches.

The stones are then to be covered with pine shavings, if they can be obtained, if not, with straw, brush, leaves, or turf, as is most convenient.

The earth having been all thrown on one side, is returned by the use of the side-hill plow, and should all be placed back over the stones again, so as to ensure the surface of the soil directly over the drain, being higher than the adjacent surface, to present a channel for surface water, being formed in the loose earth directly over the stones in the drain. Care should be taken not to have the direction of the drains such as to make too great a fall in them, for they may not be liable to wash in the bottom; besides, they are more effectual when they run diagonally with the hill side.

They should not be filled nearer the surface, than 14 or 16 inches, in order that they may admit of thorough subsoil plowing to that depth. No work on the farm has ever given me a better return than thorough draining. In many instances, I have reclaimed land that was hitherto worthless, and at an expense of \$12 or \$15 per acre, and have succeeded in enhancing the value to \$200 per acre, for farming purposes.

JOHN WILKINSON.

Agricultural Institute, Mount Airy, Sept. 1848.

LOOK TO YOUR TOOLS.—See that these are always in good order, and ready for use. Get good ones at first, and take care of them afterwards. A man may do twice as much with a good as with a bad tool. How few think of the loss from this cause. With a bad plow, a man loses by his team, his driver, his plowman, and his crop. A good harrow will do twice the work, and materially increase the crop over that of a bad one. With a poor wagon, or cart, or even a wheelbarrow, less labor can be done with the same force. Team is wasted as well as the time of the laborer, and nobody is the gainer. When not in use, always keep your tools dry, well painted, or oiled, and free from rust. This will add to their durability as well as value for immediate use.

GYPHUM AS A MANURE.—Gypsum, or plaster, ought to be used wherever it can be advantageously. It is not only one of the cheapest manures, but one of the most beneficial. It affords direct food to many plants; draws the nutritious gases from the atmosphere for the support of plants; and it concentrates the dews upon them, early in the afternoon, and late in the morning. When plaster is applied and suited to the soil and crop, you can discern its effects for several miles.

FACTS IN PRUNING.

THE action of roots, and that of leaves are reciprocal. If you diminish the quantity of foliage, you will proportionably lessen the increase of roots. If 100 represent the quantity of roots made by a tree with all its foliage, then 50 will represent the quantity of roots formed by a tree similar to the other, in every respect, except in having the production of foliage repressed, by whatever means, to the extent of one half. You will therefore perceive that by summer pruning, both roots and tops are equally reduced, and that what may be termed the balance of power between these is still maintained. On the contrary, if you prune only in winter, the roots are in consequence but little affected, their increase for the season having been completed in the previous summer; and in the following season the whole amount of force exerted by the full complement of roots is brought to bear on a top limited by winter pruning, and this force is evinced by over luxuriance, which some remedy by root pruning.

With regard to young spray springing from the ends of previously-shortened shoots, it may be cut back to two eyes in all cases.—*Lindley.*

SAGACITY OF THE WILD GOOSE.

As you have taken considerable interest in developing the extraordinary sagacity of the brute creation, I am induced to relate a very singular circumstance, concerning the instinct of the wild geese, that migrate from the south to the north in the spring of the year.

A few years since, a neighbor of mine shot at a flock while passing to the south, wounded one in the wing, took him alive, and very soon domesticated him. He soon became very tame, and went with the other geese. I bought him, and kept him three years, and then mated him with an old native goose. (The wild goose does not lay till four years old). They had several broods of young ones, and the old goose became very feeble; so much so, that she could not sit long enough to hatch out her eggs, I accordingly put them under another goose, where they did very well. In the fall of the year, I gave her away, and mated the wild gander with another. In the spring following, about six months after, I heard that the old goose had got better, and was in good health. She was brought home and put into my poultry yard. The wild gander and his new mate were at a distance of about eighty rods, in another pasture, on a high hill. As soon as the old goose was put into the yard, she made a loud noise, which the wild gander heard. He immediately left his new mate, and came down to the yard, recognized his old mate, entered into close conversation, and appeared extremely happy in seeing her again. His other mate followed him, and wished to join the party, but he appeared much offended, treated her with the greatest indifference, and drove her from him. The old goose soon began to lay; and as soon as she set, I put under her, besides her own eggs, three laid by another goose. They all hatched out, and the goslings all looked precisely alike—no one could tell the difference; but as soon as the wild gander saw them, he appeared to take particular notice of three of them, and looked at

them for several minutes. He then began to peck and push them away. I thought nothing of this, and left them. In the course of the day, I looked at them again. He was then pecking, and trying to kill them. I took a stick, and struck him several times on his wings, and drove him away. The next morning, I went to see them, and found him still pecking them, and had almost killed them. I then whipped him more severely, when he soon left them, shaking his head several times, a signal the wild goose always gives previous to migrating. I then left them till the next morning, when I found he was gone, and could not be found.

About ten days after, I heard that a wild goose had been taken about two miles from my farm, while swimming down the bay. I sent a man after him, and it proved to be my gander. He was brought home, put with the old goose and goslings, but took no notice of them, and would not go near them, keeping at a distance of four or five rods from them; thus continuing for about three months. I then killed the three goslings, immediately after which he went to his old mate and goslings, appeared to converse with them for several minutes, made all up, and continued a faithful and affectionate husband and father, and remained with his mate till he was accidentally killed.

M. THAYER.

Braintree, Mass., Aug. 18th, 1848.

THE COW—HER DISEASES AND MANAGEMENT.—No. 6.

Inflammation of the Kidneys and Bladder.—This disease proceeds from various causes, such as strains, from riding other cows, from blows, or other external injury, from gravel, or anything which obstructs the proper functions of those parts.

Inflammation of the kidneys is indicated by a deficiency of urine, attended with a shivering, and a pain in the region of the kidneys, which the cow shows by turning her head to her side, as if looking at the part affected; and if she is made to walk, she moves with some degree of stiffness in the hinder parts, and at times utters a deep moan; the horns and legs are generally cold, the pulse low, and the animal feverish; the urine is discharged in small quantities, and of a high color. The violence of the disease may be judged of from the appearance of the urine. When it is of a coffee color, and of moderate consistence, the symptom is favorable; if voided in small quantities, and is black and fetid, it forebodes a fatal termination. The disease often ends in suppuration, when an ulcer of the kidneys takes place, though it is often cured. In the first stage of the disease, bleeding is necessary, as in every other inflammation. The bowels are then to be opened by a saline purge composed of the following ingredients:—

Epsom salts, $\frac{1}{2}$ lb.; saltpetre (nitre), $1\frac{1}{2}$ oz.; anise seed, $\frac{1}{2}$ oz.; parsley seeds, $\frac{1}{2}$ oz.; powdered juniper berries, $\frac{1}{2}$ oz.; tincture of opium, $1\frac{1}{2}$ drachms.

To be given as soon as possible, in two quarts of smooth oat-meal or Indian-meal gruel, in which one ounce of common soap has previously been dissolved, with half a gill of double-distilled anise seed. This drink wonderfully assists nature, by unloading the intestinal canal. It also gradually relaxes the body, acts as a gentle diuretic, and allays

the impetuosity of the blood, by which means it gives ease to the obstructed parts, and by degrees eradicates the disease. This drink may be repeated in eight hours, should not the first dose succeed. The hard excrements are to be taken out of the rectum, by introducing a small-sized hand into the fundament, being first well-covered with lard, or sweet oil, and the nails of the fingers closely pared, to prevent injury to the parts during the operation, which is commonly called "raking." The cure after this is to be trusted to mild diuretics, among which the following is recommended:—

Saltpetre, in powder, $1\frac{1}{2}$ oz.; Castile soap, 9 drachms; camphor, in powder, $1\frac{1}{2}$ drachms; oil of juniper, 3 drachms.

The soap is to be cut into shavings, which are to be dissolved in two quarts of water gruel. The other ingredients may be added, and given to the cow, when milk warm. If she seems extremely restless, and full of pain, two drachms of liquid laudanum may be added to the dose above. This medicine is to be repeated once a day, or as often as the symptoms demand it, and continued till the disease is removed.

Besides this treatment, an emollient clyster may be given, composed of the following materials:—

Water gruel, 3 pints; sweet oil, $\frac{1}{2}$ pint; common soap, 1 oz.; tincture of opium, $\frac{1}{2}$ oz.

The soap is to be boiled in the gruel; then add the sweet oil and opium, and inject the whole, milk warm, into the rectum, by means of a clyster pipe and bladder. As soon as the clyster is given to the cow, a wisp of hay should immediately be applied under the tail, and the hand instantly put on its back part, so as to cause the tail and fundament to come in complete contact with the wisp, which should be held there for ten minutes, or a quarter of an hour, at least, in order to prevent the clyster from returning too soon, or before the medicine has had the desired effect. This emollient clyster has also its peculiar efficacy, by softening and relaxing those delicate parts, and assists in the operation of the laxative drink.

If the saline purge should not open the body sufficiently, it may be repeated. There may also be given to the cow, once or twice a day, a pint and a half of the following decoction, which must be boiled for half an hour, strained off:—

Juniper berries, bruised, 3 oz.; marsh mallow roots, dried, 3 oz.; camomile flowers, 3 oz.; linseed oil, 18 drachms; water, 3 quarts.

During the operation of these medicines, the cow should have plenty of diluent drinks, such as water gruel, &c., and mashes made of malt and bran, or Indian meal. In many cases, in spite of the most judicious treatment, the disease, instead of being checked, passes on, as already mentioned, to suppuration, when a different mode of treatment becomes necessary to be adopted, such as the use of diuretics of a more powerful detergent nature, which may be capable of healing the ulceration that ensues. When this takes place, the following symptoms will occur:—At the time the animal stales, her urine is voided with much pain; she groans at the time she is making it; and the urine is mixed with matter and blood. After each time of staling, she sets up her back and tail for a considerable period afterwards; the hair on her body stand on end, and

the skin soon becomes tight to her ribs, attended with loss of appetite and fever. When the disease has advanced to this stage, the following mixture is recommended as proper:—

Common turpentine, $4\frac{1}{2}$ oz.; camphor, in powder, 3 drachms; gum myrrh, $1\frac{1}{2}$ oz.; calomel, prepared, 30 grains.

The turpentine is first to be boiled over a slow fire, till it is of a sufficient hardness to form into balls; then take it off the fire, and let it stand till it becomes somewhat warmer than new milk; next add the other ingredients, which must be well stirred together, till the mixture gets cold; then divide it into four balls, one of which may be given every day, till the disease is removed. It will also be proper to give, once a day, a pint and a half of the before-mentioned decoction, to which add three fourths of an ounce of saltpetre. The bowels also are to be attended to; for if the animal becomes costive, one or other of the saline drinks must be given, in order to open them, and it may be repeated as often as it is found necessary.

The food should consist of diluent liquors, malt mash, &c., as before recommended.

ADULTERATION OF FOOD.—No. 4.

Coffee.—Singular as it may appear, this substance is subject to many adulterations; and unless the coffee be purchased entire, its purity can seldom be depended upon, and even then, it is sometimes questionable; for we are assured, on good authority, that there is a kind of bean grown in England, which so much resembles the coffee berry, that none but a practised eye can detect the difference; so that even in buying an unground article, the purchaser cannot consider himself safe. The substances usually employed in the adulteration of ground coffee are dried chiccory root, the grains of wheat, barley, and rye, ground and roasted peas and beans, coffee grounds that have been exhausted by use, and coffee damaged, or spoilt, by sea water.

By comparing the analysis of coffee with that of chiccory, it will be seen that a very great difference exists between the two substances. Coffee contains about 65 per cent. of matter soluble in water, whilst chiccory contains only about 28 per cent. Again, coffee yields but about 3 per cent. of ash, while chiccory yields nearly 13 per cent. Hence we have, at once, by this means, almost a positive method of detecting this species of adulteration. Furthermore, chiccory contains so much gummy matter, that if the fingers be moistened, and a little of the powdered article be taken, and well pressed together between them, it will adhere strongly, and form a mass of a very coherent nature, which can be moulded into any form. Pure coffee, when thus treated does not cohere in the slightest degree.

Chiccory, also, differs from coffee, when ground, in another particular, viz.: Pure coffee, if sprinkled on the surface of the water, will remain there for some time, and will not sink to the bottom; but chiccory will sink almost immediately, and tinge the liquid of a brownish yellow, the intensity of the color being in proportion to the quantity of chiccory employed.

The detection of roasted grain, peas, or beans, in coffee, may easily be determined by the action of a

watery solution of iodine on the starch contained in them, whilst it does not affect a solution either of coffee or chiccory. A decoction of the suspected coffee is first made in the usual manner, and strained when cold. Then a solution of iodine is added, and if peas, beans, or any farinaceous substance be present, the liquid will assume a blue, or greenish tinge—greenish, when the quantity is small, and blue, when large.

The detection of spent coffee grounds is comparatively simple, and depends on the same mode of operation as in the case of chiccory. It is evident that coffee, which has been exhausted by water, cannot furnish so much soluble matter, and will yield more insoluble matter than that in a normal state; so that the only thing to be done is, to exhaust a given portion of the suspected article with water, ascertain the amount of soluble and insoluble matter as before, and compare the results with that of genuine coffee.

Berries of coffee, that has been much damaged by sea water, are often torn and flattened out of shape; outside, they possess a brownish-black color—inside, a greenish tinge, with a musty smell, and rather a soapy taste. When roasted, in the ordinary manner, they give out no aromatic odor, like that produced by good coffee; nor do they become oily and shining by roasting, but remain dry and dull. When cold, their smell resembles that of the juice of liquorice. The unroasted berry imparts to boiling water a brownish tinge, and the decoction is very black and difficult to filter. At first, it has no bitter taste, nor sensible odor, but when left in the mouth, for a little time, it tastes like a weak solution of soap. On the contrary, good coffee gives a golden-yellow decoction, possessing a slightly bitter and herbaceous taste, and a faintly aromatic odor. At the expiration of about twelve hours, the decoction becomes green, and remains perfectly bright.

Coffee, impregnated with sea water, when roasted and infused in water, colors it a bright brown; and the liquid has neither the taste nor the perfume of coffee undamaged, and properly prepared. Its whole chemical constitution is changed, which renders it totally unfit for the purposes for which coffee is generally employed. In other words, it is unwholesome, and should not be used.

NUMBER OF BEES IN A SWARM.—A hive contains three different classes of bees—namely, the queen or female; the drones, or males; and the workers, or imperfectly-developed females; these three classes varying in number and size. The average number of bees in a hive, or swarm, is variously stated by different authors. Stawell, in his notes on Virgil, gives the general number at about 16,000; an anonymous author says from 15,000 to 20,000; the Edinburgh Journal states from 20,000 to 25,000, and assures us that before swarming there may be upwards of 40,000 in a populous hive; while a reviewer of Bevan's work on bees says, it is 52,000. One says that there are 15,000 workers; another says 19,499; a third says 20,000; and a fourth says 50,000; the number of drones, we are told by one writer to be 500; by another, from 600 to 2,000; and by a writer in the Entomological Magazine, at usually 2,000,

RICE HULLERS.

THESE machines are of recent invention, and will hull from one to ten bushels of rice per day, according to their size. They are found to be very convenient for domestic use where the planter, or farmer, raises his rice in a small way; but where

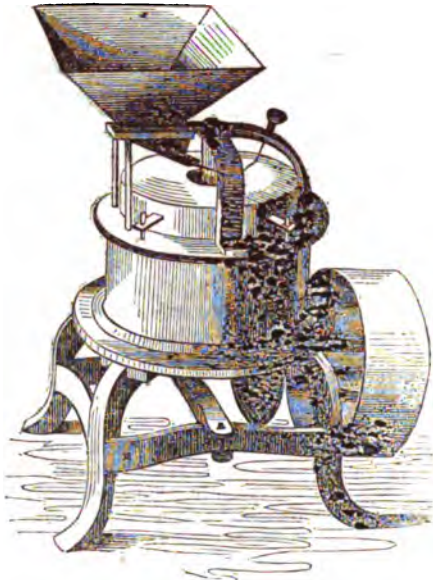


FIG. 83.

large crops are produced, a different machine is required.

NEW-JERSEY FARMING.

Few states comprise a greater variety of soil than New Jersey. There is the shifting sea sand, the tenacious clay, and the porous gravel, with all the intermediate mixtures of light, middling, and heavy loam. Then there is the rich, wide-spread salt marsh, the fertile fresh meadow, the rolling hill, and the rocky mountainous region. In climate, too, New Jersey greatly varies. At Cape May, which is nearly as far south as Washington, they grow the fig and sweet potato in great perfection, in the open air, while among the mountains of Essex, corn, except of the dwarf kinds, will hardly ripen.

With all this diversity of soil and climate, there is necessarily great diversity of practice in farming. Nothing would give us greater pleasure than to make an agricultural exploration of New Jersey, from one end to the other; but, confined as we are to business, our excursions in this state have not been so extensive nor so frequent as we could wish. We trust, therefore, that the farmers themselves will take this matter in hand, and remedy our deficiencies, by giving us full accounts of their soil, climate, crops, manures, stock, and general management. Fine writing is neither what we ask nor expect; but plain facts, such as all can easily understand and put in practice. Such things are always acceptable; and

that publication will ever be considered the most useful which most abounds in them.

The farmers throughout the country ought to write more for our journal than they do. We generally find them ready to talk, and that freely and intelligently; but when we ask them to write, they are very backward in fulfilling our wishes. We trust that hereafter they will become more free in their communications, and will shower down their favors upon us with a liberal hand.

SMALL POX IN SHEEP.

A CORRESPONDENT of Col. Hodges, British consul at Hamburg, thus describes the small pox in sheep, which is, at present, prevailing in various parts of Europe to an alarming extent:—

In this disease the sheep suffer previously internally, with loss of appetite, heaviness, and indisposition to move, difficulty of breathing, swelling of, and discharge from, the eyes, and of a viscous matter from the nose; in from three to five days, spots appear on the bare parts of the legs and body, which become large and form blisters, in the centre of the red circumference of which yellow spots come, and at last fill with yellow matter. If these spots become blue, or blackish, they unite, and a thin stinking matter issues from them, which is the height of the disease; but death ensues, if the pustules should not come properly out, or should strike in again. The last stage of the disease, when it terminates favorably, is marked by the drying away of the sores, on which a black scurf forms and falls off. The animal has the disease, as with man, only once; in a flock, it is contagious, but not so among cattle.

During this disease, good hay and drinks of a decoction of barley, are good, to which a little common salt may be added. At the commencement of the disease, the nose and mouth must be kept clean with vinegar and water; the eyelids are to be often washed with warm milk, and an electuary of three parts flower of brimstone, and one part common salt and honey, is a useful remedy. But I am decidedly of opinion that inoculation of the whole flock, the moment the disease shows itself, even in one in the neighborhood, is the only preservative.

STORING PUMPKINS AND SQUASHES.—Considering the expense and difficulty of keeping pumpkins and squashes, we generally found it more profitable to feed them out as fast as they ripened. For this purpose, we kept an extra number of animals through the months of September and October, and when the pumpkins, &c., were consumed, we either finished fattening them on grain, or disposed of them to the drover, or butcher.

Pumpkins require much room in storing, and, in spite of the best care, often decay rapidly; besides, as soon as the weather gets cold, they are of such a watery substance, that, if fed in any considerable quantity, they are liable to scour the stock and give them the cholera. It is the same if fed raw with the turnip, beet, and other roots. Our advice, therefore, is, if you have not the proper conveniences for cooking vegetables, get rid of them as fast as you can do so profitably, during the mild autumnal months.

Ladies' Department.

HARVEST HOME.

OLD LADY'S DIARY.—I have just received an invitation from our kind neighbor, farmer Jones, to take my whole family to his house to-morrow, and join in the pleasure of a real old-fashioned "harvest home," which I would accept with right good will, did I think it prudent to leave home to take care of itself; but as I do approve of making all happy who are capable of receiving pleasure in a reasonable way, and as youth is the season of enjoyment, I have given all the young folks a holiday, keeping my old faithful Peter to take care of the live stock, while I keep house in a quiet way.

The information that the invitation has been accepted has already spread far and wide, from the pantry to the kitchen, and from the kitchen to the milk house; and all are in joyous consultation as to what they can do, over night, to expedite the morning's work, and allow of an early start. Betsey takes the lead in all the preparations, and has promised to take the young people under her care. The large hay waggon, with the best horses, will carry them all without fatigue over our hilly road, so they will arrive fresh for a day of pleasurable toil. It is amazing to see with what spirit, work of all kinds is carried on to-day. The pantry is undergoing a thorough cleaning, and the bright tin pans glitter in the sun on the grass near the spring house, while the sound of the scrubbing brush on the churn, tells that in that department there will be nothing left to be done on the morrow; while the gleesome face, and the merry laugh that greets me at every turn, assures me that there is no stimulus to exertion and thrift like hope, and a prospect of innocent pleasure. Why will the old, who are no longer capable of enjoying youthful pleasures and sports, churlishly deny them to the young? Cares and trials that are inseparable from earth and its inhabitants, will soon enough blight their bright landscape, trials that we cannot ward off, and cares that like the canker worm eat into the very core of their hearts. Surely, then, it should be the study of the old, not unnecessarily to cloud the sunshine that never shines too brightly.

Harvest Home! What a long train of associations is connected with this word and festival. From the days of Boaz and Ruth, whose simple and touching history tells of the rich lord of the harvest, personally watching over his laborers, his heart cheered and thankful to the Great Giver of all good, for the bounteous supply, his body invigorated by healthful labors, the bright sunshine and the fresh breezes around him; yet forgetting not the poor and humble gleaner, who had all day followed at a distance, gaining a scanty subsistence by gathering the scattered ears that had fallen from his loaded sheaves. Boaz had then earned a joyous "harvest home," and we read that, "in the evening he ate and drank and his heart was merry," for God had blessed him.

Through the whole scripture history the bringing in of the harvest, and the threshing floors are described as scenes of peculiar festivity and religious thankfulness, and a portion was always set apart as a thank offering unto the Lord. The heathen nations, who had a long time before wandered off

from the people of God, still remembered their seasons of mirth and rejoicing, though they forgot the source from whence their wealth and blessings flowed. Traditions remained amongst them that there was a God and Creator, though they had forgotten Him, and gone far astray; so they made unto themselves gods and worshipped the creature instead of the Creator. Ceres and Bacchus, their gods of the grain and grape, were at the gathering in of the harvest, personified, and carried in procession, crowned with their appropriate emblems, wheat ears, and the vine. Priests and priestesses followed with music and dancing, accompanied by a multitude of drunken revellers, who made the welkin ring with their uproar and beastly mirth; nor did the revel cease until in the far-spent night, exhausted nature sunk under the unnatural excess. Then in this dread night of moral darkness, arose the star of the Lord of the harvest, and our Saviour again declared to whom the honor was due.

His followers have ever since had their appointed and appropriate seasons for prayer and thankfulness for the blessings of the harvest, while the old revels have still been handed down, modified by the purer religion and manners that Christianity has blessed us with.

In England, the harvesting of the grain appears to have been always celebrated with hearty good will and substantial feasting, while on the continent of Europe the gathering in of the grape is a universally joyous merry-making.

Bloomfield enters with true simple-heartedness into the inspiring scene, and gives in his own delightful manner, an animated description of the "Howkey Night." I think I see the dear good old Judie Twitchet, with spectacles on nose, and knitting in hand, surrounded by her rustic audience, telling of the happy days of her youth, and in particular of that merry Howkey night, when

"We did so laugh; the moon shone bright"

More fun you never knew;

'Twas farmer Cheerum's Howkey night,

And I and Grace, and Sue.

"The butcher whistled at the door,

And brought a load of meat—

Boys rubb'd their hands, and cried 'there's more,'

Dogs wag'd their tails to see 't."

Then follows an animated and delightful description of the preparations for the feast, when farmer Cheerum and his train arrived from the field with the last load.

"Home came the jovial Howkey load,

Last of the whole year's crop—

And Grace amongst the green boughs rode,

Right plump upon the top.

"This way and that, the waggon reeled,

And never queen rode higher—

Her cheeks were colored in the field,

And ours before the fire."

The feast being over the sun began amongst the young folks, which lasted until the moon shone bright and clear, but low in the west.

"Then off we stroll'd this way and that,

With merry voices ringing—

And Echo answered us right pat,

As home we rambled singing."

I will read the whole of this delightful poem to my young people this evening, and when I record their description of to-morrow's merry-making, see how the English harvest home will compare with the American.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 6.

HAVING NOW completed our examination of the atmospheric constituents, boys, we will next give our attention to the *soil and its ingredients*. But as I shall have frequent occasion, in my subsequent letters, to mention those classes of compounds denominated *acids, alkalies, and salts*, and, as a knowledge of these substances is of so much consequence in all chemical investigations, I will first introduce them to your notice.

1. *Acids*.—Most acids may be recognized by the sourness of their taste, yet there are certain properties belonging to this class of substances which are possessed by bodies that have not a sour taste; the sourness always depending on the solubility of the acid. The property by which they are most usually distinguished, is that of changing the blue color of vegetables to red. It was formerly supposed that all acids contained oxygen, but more recent investigations have shown a number of exceptions, in most of which, hydrogen is found as a substitute. Some acids exist in a fluid state, as sulphuric acid; some in a solid state, as oxalic acid; and one, carbonic acid, exists in a gaseous state. Their most important property, however, and that which makes them peculiarly interesting to the chemist, is their uniting with certain substances, and forming another group of compounds called *salts*. Acids are divided into *organic* and *inorganic*, the former denoting vegetable and animal, the latter, mineral acids.

2. *Alkalies*.—This class of bodies is possessed of properties which seem directly the opposite of those belonging to acids. They have a pungent taste and change vegetable blue to green. One of the alkalies, ammonia, exists in a gaseous state, and is called *volatile alkali*. Potash and soda are the two most important, and have been called vegetable alkalies, in order to denote their origin, and to distinguish them from other alkaline substances. When an acid and an alkali are brought in contact, they immediately unite, and in combining, so completely lose their distinguishing features that no trace of their respective natures can afterwards be discovered. In some cases, where the acid and alkali are each highly corrosive and poisonous, they become so changed by combining as to form a perfectly mild and harmless substance, which will not change vegetable colors, and which has neither a sour nor a pungent taste. The substance thus formed, is called a *neutral salt*.

3. *Salts*.—These are very extensively diffused through nature, and their number of varieties seems almost infinite. They are formed by the union of an alkali with an acid, an earth, or a metallic oxide. The substance with which the acid combines to form the salt, is called the *base*, and the combination always takes place in certain definite proportions. Although the kinds of salts are so numerous, yet you need never be at a loss to know of what any one of them is composed; for chemists have adopted a system of naming them, by which the composition of any one of them may be known by hearing the name. You have only to bear in mind that the name of the acid is always made to

end in *ate*, while that of the base follows without alteration. Thus, a salt formed of sulphuric acid, united with lime, is called *sulphate of lime*; one composed of carbonic acid and potash, *carbonate of potash*, and one composed of acetic acid and lead, *acetate of lead*.

The termination *ite*, is sometimes used to denote that the acid contains less oxygen than when ending in *ate*, and in this case the acid ends in *ous*, instead of *ic*. Thus, phosphoric acid and potash combined, would be called *phosphate* of potash, but phosphorous acid, which contains less oxygen, combined with potash, would form *phosphite* of potash.

Formation of Soils.—You have been so accustomed to consider the ground, when the farmer turns his furrow and deposits his seed, as having always existed in its present state, and to look upon rocks and stones as things of eternal duration, that you will be surprised when informed that most of the matter of which our mellow earth is composed, once had the form and appearance of solid rock, and that the hardest stones are continually wasting away, and adding their particles to those already existing in the soil. Such a process is constantly going on in nature. The division of these solid substances, called their *degradation*, is effected mainly by the action of heat, moisture, and frost. You are familiar with the expansion of ice, and have undoubtedly seen earthen or glass vessels, cracked and broken, by having the water in them solidified. It is precisely similar with respect to rocks; their crevices and pores are filled with water, which, by repeatedly freezing and thawing, gradually widens the interstices, and finally forces asunder the portions between which it had entered. Huge masses thus gradually crumble away, until they become changed into a soil suitable for the plow.

Other agencies are also at work in effecting the degradation of these solid masses. A chemical action is going on, by means of which certain elements, composing the solid structure of rocks and stones, are separated from their original connexions, and made to combine with other elements existing in the air and water with which they come in contact.

The science which treats of these peculiar operations in nature, is called *Geology*; but it would occupy too much of our time to examine this subject in detail. I would therefore advise you to seek further instruction from some of the excellent elementary works that have been written on this interesting science.

J. M'KINSTRY.

Greenport, Columbia Co., N. Y.

FACTS IN HILL-SIDE FARMING USEFUL TO BE KNOWN.—1. No more houses can be built on a hill side than on a plain, the horizontal bases of each being equal. 2. It requires no more posts, stakes, nor pickets, to fence a hill than would be necessary to fence a plain. 3. No more wheat, or any other upright plants, will grow on the hill side than on a plain, unless there be a greater surface of air available as a source of food in the case of the hill side, and there is an advantage in that. 4. On a hill side, a greater crop of trailing or procumbent plants, may be produced than on a plain.

FOREIGN AGRICULTURAL NEWS.

By the steamer *Europa* we are in receipt of our foreign journals to Sept. 2d.

MARKETS.—*Cotton*, a trifling advance. *Grain and Provisions*, a slight decline. In other things we find nothing worthy of notice.

The Weather was rather favorable for the harvest, and the farmers were busily gathering their grain crops. The rot in the potato seemed to be somewhat abated, under the genial influences of more sunny weather.

Death of Berzelius.—A letter from Stockholm announces the death, on the 7th inst., of the illustrious chemist, Berzelius, aged 69 years.

Small Pox in Sheep.—We regret to state a very heavy loss sustained by Mrs. Heard, of Seckford Hall, near Woodbridge. Mrs. H. purchased, a week or two since, twelve score of fat sheep and lambs, all of which, with the exception of a half dozen, have perished. So fatal and instantaneous is the disease that forty died in one day.—*Ipswich (Eng.) Journal*.

Importation of French Bread Stuffs into England.—The steamship *James Watt*, from Havre, lately carried into England 200 sacks of flour, and 26 of maize, or Indian corn.

The Beech Tree Struck by Lightning.—Early in October, 1845, during a severe thunder storm, in Northumberland, the lightning descended the trunk of a beech tree, and plowed up the soil to a distance of twenty yards from the base of the tree. The beech tree, therefore, has no more claim than other trees to be considered a non-conductor of electricity.—*English Paper*.

Rice as Food for Poultry.—Rice is good food either for fattening or for growing fowls. It should be boiled, not too much; if in skimmed milk or broth, all the better. It should, however, be mixed with chopped mutton suet, pollard, and barley meal. Given uncooked, it might prove injurious, if they would eat it, from swelling in the craw. I have heard that a rice diet has a tendency to cause blindness in fowls, but have no experience of the fact, whatever may be the result in India.—*Gardener's Chronicle*.

The Dorset Breed of Sheep.—As an instance of the prolific nature of this breed of sheep, I may mention that we have an aged ewe, that, in 1847, dropped twin lambs, which she reared; they are both expected to drop lambs in the course of next month. On the 2d January this year, the same ewe lambed, on 4th May, the lamb was taken from her, and on the 4th inst. she gave birth to another very fine lamb, that is, six months precisely between the lambs; this is surely a very remarkable case. If this prolific quality could be generally relied upon, what a profitable breed for rearing lambs for the market! These are the only Dorsets we have, the rest of the flock being Downs, the ram also of the same breed, and allowed to run with the flock for the sake of having lambs at various seasons for table.—*Agricultural Gazette*.

Mutton Legs.—Among the articles of food brought from the United States of America are legs of mutton, in casks, in a salted or slightly-preserved state, to be manufactured into mutton hams. A vessel, just arrived from New York, has brought twelve barrels of these mutton legs, or hams, in the state mentioned. If only salted, they are free of duty, but, if they have undergone the process of drying or smoking, so as to bring them within the meaning of the term hams, as commonly understood, they become liable to the duty on that article. The same remark applies to the pork legs brought in considerable quantities from the United States of America.—*English Paper*.

A Vegetable Monster.—The "Aurora de Matanzas" states that an immense yam, one yard and six inches in length, and weighing 17 $\frac{1}{2}$ lbs., has lately been raised by D. C. Martinez, in Jabaco, island of Cuba.

English Fashions for August, 1848.—An umbrella, top coat, and thick boots, when out of doors; a cozy little fire at home, and an extra blanket at night.

Mode of Applying Farm Yard Dung.—The best mode of applying farm-yard dung, consists in mixing and blending the soil and the dung, in the utmost possible manner of intimate comminution. It is in direct opposition to the present most approved mode of the putrefaction of the substances, the generation of heat, and the evolution of the gaseous fluids; but it rests on the undeniable specimens of nature's chemistry which every where abound. And though a chemical combination may ever exceed our powers, yet we do not know how near to it a mechanical mixture may approach; and if it be absurd to expect perfection in any attempt, there can neither be absurdity nor foolishness in making the nearest possible approaches to it.—*Farmer's Herald*.

Diseased Cattle.—Numbers of cattle are dying in Norfolk, England, from disease of the lungs; but the epidemic, which effected their feet and mouths for the last two or three seasons, is stated to be nearly extinct.

Statistics of the Potato and Grain Crops in Ireland.—Under the administration of Lord Clarendon, in Ireland, a system has been established for ascertaining with great accuracy, the number of acres planted of all cereal products, and from recent returns to Parliament the following table is compiled:—

	Planted in 1847.	Planted in 1848.
Wheat,	743,871	735,000
Oats,	2,200,870	2,187,000
Barley,	332,655	355,537
Rye,	12,415	13,238
Beans,	23,768	25,224
Potatoes,	284,116	1,054,000

From these returns it appears that if but one third of the whole potato crop should be saved in Ireland there need be no fear of famine prices. Though there has been this vast increase in the breadth of land planted with the potato, yet in no particular description of grain does there appear to be any material reduction, and the aggregate amount of acres including all descriptions of grain, show a greater breadth of land sown in 1848 than in 1847 by 2426 acres.

Packing Grapes.—Formerly, grapes were packed closely in bran, &c.; but by this mode they were rendered unfit for exhibition. They are now sent hundreds of miles without any packing amongst the berries. They should be laid on the thickness of four sheets of cotton wadding, and tied down by the shoulders by means of soft, thick, cotton threads, or tape, previously made fast to the bottom of the box. Let the layer of grapes be composed of bunches placed closely together, and as nearly of equal thickness as possible. Put no paper over them. Let thin boards be fitted to rest securely over the grapes, and as closely as may be without touching them. Pad the upper side of these boards with cotton, on which secure another layer of grapes; and thus proceed till the box is filled. After reaching their destination, the grapes should be suspended in a dry, airy place.—*Agricultural Gazette*.

Canarian Emigration.—There recently arrived at Puerto Principe, in the island of Cuba, by the Spanish frigate, *Maria Julia*, 353 colonists, of both sexes, from the island of Teneriffe, with the view of engaging in agriculture.

Food for Children.—The finest children I have seen in the United States, were fed mostly upon bread, milk, eggs, and poultry; if parents would feed their children in this way, giving them little or no other animal food, they would not be so liable to disease, nor would contagious disorders be so fatal as they are now, owing to the excessive use of animal food, and particularly pork.—*English Paper*.

Editor's Table.

SOCIAL MEETING OF FARMERS AND GARDENERS.—A meeting will be held at our rooms, 189 Water st., N. Y., on the first Monday of each month, from 12 till 2 o'clock, P. M., for the benefit of *Farmers, Gardeners, and others*, disposed to come, for the purpose of having a social, informal chat, on subjects appertaining to Agriculture and Horticulture.

These meetings are entirely free from charge of any kind whatever, to those who may please to attend them. They are subject to no formal speaking, but every person present is left to pass his time in the manner most agreeable to him, either in listening to what may be going on, or in conversing with any one present.

A regular report of the proceedings will be published, once a month, in the *American Agriculturist* and other journals.

We cordially invite our friends to attend, without ceremony, and exhibit whatever they may have particularly curious, rare, or useful, in the way of plants, flowers, fruits, seeds, vegetables, farm or garden implements, fertilizers, &c. &c. If not convenient to attend the meetings, as specified above, we should be pleased to receive whatever they may wish to have exhibited at any other time, with an account of the same in writing or otherwise, in order to embody it in the report.

FIFTH ANNUAL EXHIBITION OF THE ESSEX COUNTY INSTITUTE, NEW JERSEY.—This was held at the Court House, in Newark, on the 20th ult., and was highly creditable to the members and the public, from the large number of choice specimens of fruits and vegetables offered. The ladies' department of fancy work was full and meritorious; but less so on the part of the mechanics and manufacturers, although there were several beautiful specimens of their work. But Newark is capable of exhibiting as large a variety of highly-finished, manufactured articles as any place of similar size in the country.

The show of dairy products was inconsiderable, and that of animals limited, but among them, we noticed some in each department of peculiar excellence.

THE AMERICAN ARCHITECT.—The September number of this work presents a specimen of a regular log cabin—no novelty, it is true, among us—but even log cabins ought to be built by rule, and for twenty-five cents any one can have designs in perspective and detail. The price of the "Architect" is \$3 per annum. C. M. Saxton, publisher, 205 Broadway.

AMERICAN COTTAGE LIBRARY; or Useful Facts, Figures, and Hints for Everybody; Containing a General View of the World, Statistics of the United States, &c. &c. Burgess, Stringer, & Co., 222 Broadway, pp. 190. Price 25 cents. This is a very useful book as a reference, and as such we recommend it to our readers.

COTTAGES AND COTTAGE LIFE; Containing plans for Country Houses, Adapted to the Means and Wants of the People of the United States, with Directions for Building and Improving; for the Laying out and Embellishing of Grounds; with Some Sketches of Life in this Country. By C. W. Elliott. Cincinnati: H. W. Derby & Co., publishers. New York, A. S. Barnes & Co., pp. 226. In this work, the author has given sixteen fine lithographs of cottages, in various styles of architecture, plans for gardens, and laying out grounds, with architectural embellishments for the same. The designs, in general, are pretty and convenient, and do credit to his taste as an artist. These are accompanied with letter-press descriptions, and the whole is interwoven with a tale, or more properly a series of sketches of life in the country, told partly in

prose and partly in poetry. This work is handsomely got up, and does much credit to the publishers; indeed, it is the finest specimen of typography we have yet seen emanating from the west. Mr. Elliott is a pleasing and instructive writer, and we hail his beautiful volume as another evidence of growing taste and refinement amongst us.

GREAT CORN FIELD, AND GREAT COUNTRY.—A traveller writes to the Toledo Blade, from the Wabash Valley: "I viewed the 1,000 acre field of corn (on Wea Prairie), of the Hon. H. L. Ellsworth, late Commissioner of Patents, where this year 60,000 bushels will probably be raised without hoeing, simply plowing the corn two or three times. I may say, too, that I saw 5,000 acres, all adjoining."

Corn is raised by contract, for 4 to 6 cents per bushel, taken in the field. Hogs are raised on clover, oats, and corn, and it is not unfrequent to find farms with 1,500 of these grunTERS. On the Grand Prairie, no less than 10,000 cattle, from one to four years old, were feeding in different herds, for the eastern market—one herdsman taking care of two to four hundred, for a compensation of ten cents per head, per month.

MULTICOLE RYE.—G. T. Hopkins, Esq., editor of the Vermont State Agriculturist, in giving the result of an experiment made by him with multicolle rye, says that "it stools out more profusely than any other grain we have ever met with. From 10 to 20 stalks grew from every seed that vegetated, and one root, in particular, numbered 31 stalks, each with a good head on it, the aggregate length of which was 14 feet 3 inches, and the number of grains 2,128. The heads of the entire crop averaged about 6 inches in length."

SCIENCE OF COOKING.—Liebig's "Chemistry of Food" details a method for cooking meat, founded on scientific principles. It is recommended to introduce the joint into water in a state of quick ebullition, allow it to remain in this state for a few minutes, and then so much cold water is to be added as to reduce the temperature down to about 160°, in which state it is to be kept for some hours. By the application of boiling water at the first, the albumen is coagulated, so as to prevent the water from penetrating into the interior of the joint, and extracting the soluble juices.

CHICKEN WITH A HUMAN FACE.—We have heard, says the New Orleans Delta, a good deal of talk during the last few days about a chicken with a human face, at the house of Madame Martin, in Cole street, near St. Philip. We paid no attention to the droll stories which we heard, but at length we were so pressed that we determined to see for ourselves. At the place mentioned, we saw a chicken, having, instead of a beak, a nose and mouth exactly conformable to those of a human face; the nostrils, the separating cartilage, the lips, tongue, chin, are all there. It was indeed a most singular *lusus nature*.

A PREVENTIVE OF THE HESSIAN FLY.—Jonah Ozlesby, a respectable farmer of Dauphin county, publishes a statement in the Pennsylvania Cultivator, by which it appears, that to burn the stubble of the previous crop is a certain preventive against the fly. He has practised this for nine years, without a failure in a single instance.

ECONOMY IN RAISING POULTRY.—Cobbet, in his "Cottage Economy," says that six fowls, with proper care, might be made to clear, every week, the price of one gallon of flour.

PRAIRIE STEAM CAR.—The experiments with the prairie steam car, invented by Gen. Semple, of Illinois, appears to have succeeded. The Springfield Register, of the 28th, says it has run ten miles an hour over the prairie, with fifty passengers. A daily train between Springfield and Alton is contemplated.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1848.

ASHES, Pots,.....	per 100 lbs.	\$6 00	to	\$6 12
Pearls,.....	do.	6 25	"	6 31
BALE ROPE,.....	lb.	6	"	8
BARK, Quercitron,.....	ton,	30 00	"	31 00
BEESWAX, White,.....	bush.	75	"	1 25
BOLT ROPE, Am. Yellow,.....	lb.	19	"	22
BONES, ground,.....	do.	11	"	12 1/2
BRISTLES, American,.....	lb.	45	"	35
BUTTER, Table,.....	do.	25	"	65
Shipping,.....	do.	15	"	25
CANDLES, Mould, Tallow,.....	do.	11	"	15
Sperm,.....	do.	11	"	13
Sterile,.....	do.	25	"	38
CHEESE,.....	do.	30	"	25
COAL, Anthracite,.....	do.	5	"	10
CORRAGE, American,.....	2,000 lbs.	4 50	"	5 50
COTTON,.....	lb.	11	"	13
COTTON BAGGING, Amer. hemp,.....	yard,	5	"	9
FEATHERS,.....	lb.	15	"	16
FLAX, American,.....	lb.	30	"	40
FLOUR, Northern, Southern and West'mbl.	do.	5 00	"	8
Fancy,.....	do.	6 00	"	5 87
Richmond City Mills,.....	do.	6 00	"	5 50
Buckwheat,.....	do.	7 00	"	7 25
Eye,.....	do.	3 67	"	4 00
GRAIN—Wheat, Western,.....	bush.	1 10	"	1 31
Red and Mixed,.....	do.	1 00	"	1 30
Eye,.....	do.	70	"	71
Corn, Northern,.....	do.	65	"	72
Southern,.....	do.	60	"	65
Barley,.....	do.	73	"	73
Oats,.....	do.	57	"	55
GUANO, Peruvian, none in market, 2,000 lbs.	do.	60 00	"	50 00
" Patagonian,.....	do.	36 00	"	40 00
HAY, in bales,.....	do.	45	"	50
HEMP, Russia, clean,.....	ton,	200 00	"	210 00
American, water-rotted,.....	do.	180 00	"	220 00
American, dew-rotted,.....	do.	140 00	"	200 00
HIDES, Dry Southern,.....	do.	6	"	7
HOPS,.....	lb.	4	"	12
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 25	"	4 37
Pipes for Pumps, &c.	lb.	5	"	6
MEAL, Corn,.....	bbl.	3 12	"	3 25
Corn,.....	bhd.	12 50	"	13 00
MOLASSES, New Orleans,.....	gal.	9	"	26
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	9 00	"	2 25
Pitch,.....	do.	75	"	1 00
Rosin,.....	do.	90	"	1 00
Turpentine,.....	do.	3 00	"	3 25
Spirits Turpentine, Southern,.....	gal.	45	"	47
OIL, Linseed, American,.....	do.	60	"	61
Castor,.....	do.	1 50	"	1 70
Lard,.....	do.	70	"	75
OIL CAKE,.....	100 lbs.	1 00	"	1 15
PEAS, Field,.....	bush.	1 00	"	1 62
Black eyed, 2 do.	do.	1 25	"	1 37
PLASTER OF PARIS,.....	ton.	2 25	"	3 00
Ground, in bbls.	of 200 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	9 00	"	13 50
Prime,.....	do.	5 25	"	7 50
Smoked,.....	lb.	6	"	12
Rounds, in pickle,.....	do.	4	"	6
Pork, Mess,.....	bbl.	9 75	"	13 00
Prime,.....	do.	7 00	"	10 00
Lard,.....	lb.	8	"	9 1/2
Bacon sides, Smoked,.....	do.	3	"	4 1/2
In pickle,.....	do.	3	"	4
Hams, Smoked,.....	do.	5	"	9
Pickled,.....	do.	4	"	7
Shoulders, Smoked,.....	do.	4	"	5
Pickled,.....	do.	3	"	4
RICE,.....	100 lbs.	3 00	"	4 00
SALT,.....	sack,	1 25	"	1 45
Common,.....	bush.	90	"	35
SEEDS—Clover,.....	lb.	5	"	7
Timothy,.....	bush.	2 00	"	3 60
Flax, clean,.....	do.	1 35	"	1 40
rough,.....	do.	1 25	"	1 30
SODA, Ash, contg 80 per cent. soda,.....	lb.	3	"	—
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	4	"	6
SUMAC, American,.....	ton,	35 00	"	37 00
TALLOW,.....	lb.	7	"	7 1/2
TOBACCO,.....	do.	2 1/2	"	—
WHISKY, American,.....	gal.	25	"	27
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	35	"	35
Half blood,.....	do.	30	"	25
Common do.	do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 14 cents per lb.; Veal, 6 to 10 cents; Lamb, 6 to 8 cents; Mutton, 6 to 9 cents; Pork and Sausages, 8 to 10 cents; Ham and Bacon, 8 to 12 cents; Beeve's Tongues, 50 to 62 cents each; young Pigs, \$1 to \$1.75 each.

Fish, &c.—Salmon, from 18 to 25 cents per lb.; Sea Bass, Striped Bass, and Halibut, 8 to 10 cents; King Fish, 10 to 12 cents; Cod Fish, 4 to 6 cents; Weak Fish and Blue Fish, 6 to 8 cents; Black Fish, 8 to 10 cents; Fresh Mackerel, 12 to 18 cents; Mullet, 19 to 15 cents; Flounders and Poggies, 4 to 6 cents; Eels, 8 to 10 cents; Pike, 10 to 12 cents; Yellow Perch, 8 to 10 cents; Green Turtle, 10 to 16 cents; Lobsters, 4 to 6 cents; Crabs (soft-shelled), 75 cents to \$1 per dozen; Crabs (hard-shelled), 50 to 75 cents; Oysters, 75 cents to \$1.50 per 100; Clams, 25 to 75 cents per 100.

Poultry, Eggs, and Game.—Young Turkeys, from 62 to 87 cents each; Old Turkeys, 87 cents to \$1.50; Geese, 75 cents to \$1; Ducks, 62 cents to \$1 per pair; Wild Ducks, 50 to 75 cents; Teal, \$1; Chickens, 37 to 87 cents; Pigeons, \$1 to \$1.50 per doz.; Wood-cocks, \$1.50 to \$2; Snipes, 25 cents to \$1.25; Yellow Legs, 50 cents; Plover, \$2; Ripe Birds and Rail Birds, 62 cents; Rabbits, 12 cents each; Grey Squirrels, 10 cents each; Eggs, 9 to 12 for 12 cents.

Dairy Products.—Butter, from 18 to 31 cents per lb.; Cheese, 6 to 10 cents; Cheese Cakes, 8 for 12 1/2 cents; Milk, 3 to 6 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Summer Pippins, \$1.37 per bbl.; Pound Sweetings, \$1.75; Newtown Pippins, Fall Pippins, Spitzenbergs, Vauclerres, and R. I. Greenings, \$1.25; Crab Apples, 37 to 50 cents per half peck; Pears 50 to 75 cents per basket; Vergoulesne, \$3 per bushel; Pears in small quantities, 12 to 50 cents per half peck; Plums, \$1.50 to \$1.75 cents per basket; Damsons, \$2 per basket; Plums in small quantities, 18 to 50 cents per half peck; Peaches (Morris whites), \$2 to \$2.50 per basket; White Heath, 75 cents to \$1; Common Peaches, 30 to 50 cents; Peaches in small quantities, 12 to 50 cents per half peck; Cranberries, \$2 to \$2.50 per bushel, or 25 cents per half peck; Quinces, \$1 to \$3 per 100; Grapes (Isabella and Catawba), 10 to 16 cents per lb.; Oranges, 25 to 75 cents per dozen; Lemons, 18 to 25 cents; Bananas, 37 to 75 cents; Chestnuts, \$2.50 per bushel; Hickory Nuts, \$2; Peanuts, \$1.25 to \$1.88; Cocoa Nuts, 3 to 6 cents each; Pecan Nuts, 7 cents per lb.; Soft-Shell Almonds, 12 to 14 cents; Filberts, Hard-Shell Almonds, and Madeira Nuts, 8 cents.

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REMARKS.—Ashes, Hay, Naval Stores, and Provisional, a slight advance since our last. Other things about the same.

The Weather. till recently, has been excessively dry for nearly six weeks. The late corn crops are consequently very much injured, and the fall pastures nearly cut off. The copious rains the past week will remedy the latter, but the former has got past redemption. At the south, there has been too much rain for cotton, and considerable losses from this and the worm. Rice, Corn, and Tobacco have generally done well. It is too early yet to speak of the sugar crop. The potato rot has nearly ceased.

TO CORRESPONDENTS.—Communications have been received from R. C. Whiting, W. D., Samuel Allen, E. S., Calvin Coulter, Jr., E. L. A., and Reviewer.

Will C. C. Jr. favor us with his real name and place of residence?

ACKNOWLEDGMENTS.—Lime and Marl—Their Uses, with Explanations of their Properties, Management, &c. by James Hyatt, Chemist of the Mount Airy Agricultural Institute, Germantown, Pa.; Hints to Emigrants, or to those who may contemplate emigrating to the United States of America, by Rev. D. R. Thompson, Secretary of the Philadelphia Emigrants' Friend Society; List of Premiums to be awarded by the Monroe County Agricultural Society at their Show and Fair, to be held at Rochester, N. Y., on the 4th and 5th of the present month; Annual Catalogue of Fruit, Forest, and Ornamental Trees and Shrubs, cultivated and for sale by Thomas Hancock, proprietor of the Ashton Nurseries, near Burlington, New Jersey

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Collin H. Minge, Esq. do.
David Stodder, Esq. do.
J. C. Hodges, Esq. do.
A. B. Allen, Editor "American Agriculturist," N. York.
Wm. H. Starr, Editor "Farmer and Mechanic," do.
Mobile, Alabama, Sept., 1848.

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Cornwall, Vt., July 31st, 1848.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NO. XI.

A. B. ALLEN, Editor.

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PRESERVATION OF CABBAGES.

As this common and very wholesome esculent has a greater tendency to putrefaction than most other vegetable substances, and emits during this state, a very disagreeable odor, it is important to know by what means it can be preserved. Among the various methods recommended, the two following are deemed sufficient, as they both have been practiced with success:—

1. Select a dry piece of ground, cut the heads of the cabbage from their stumps, and place them in parallel rows, with the top part down, and any desired length or width. Make these rows one less in width and length every layer, so that when the heap is finished it will come to a point, and appear very much like a pile of cannon balls in an arsenal. Over this heap, place a covering of straw, and then put on the dirt sufficiently thick, the same as on a potato heap, to keep out the frost, and the work is done. The earth should be spatted down hard on the four sides, making the top sharp, like the roof of a house, so as to shed rain well. If the ground where the cabbage is stored, be of a heavy clay, it should be trenched round the heap, so as to carry off the water, and a bed of straw or round logs six inches or a foot thick be made for it to rest upon, and as a drain for all moisture, it being quite important that vegetables of every kind be kept dry.

2. Cut the cabbages so that they may have two inches of stem left below the leaves; scoop out the pith as far into the stalk as a small knife will reach; then suspend the heads, by means of a cord, exactly perpendicular, but in an inverted position, and fill up, daily, the hollow part of the stem with clean cold water.

By this method, cabbages, cauliflowers, broccoli, celery, &c., may be preserved for some time, if

kept in a cool place, thus affording an easy means of keeping a winter's supply of vegetables fresh and green.

NATIONAL POMOLOGICAL CONVENTION.

This was opened at Clinton Hall, in this city, on the 4th ult. It was composed of several hundred delegates from various parts of the Union. These were highly intelligent and respectable, and embodied a vast amount of pomological experience and knowledge adapted to the wants and circumstances of this country.

The show of fruits surpassed anything we had before seen unless we except that exhibited at Buffalo just previous to the state fair. We noticed a large number of choice grapes and other fruits from Massachusetts, Connecticut, New Jersey, and other states, though our own was by far the largest contributor. Mr. Wilder, from Boston, sent in as one item, 120 varieties of pears.

TWENTY-FIRST ANNUAL SHOW AND FAIR OF THE AMERICAN INSTITUTE.

This show was held at Castle Garden, which, as usual, was conveniently arranged from its entrance on the bridge, through its whole distance and the entire area within, for the display of the various articles exhibited. There was an addition to this large space, formed by an enclosure on the western side of the garden, where the steam engine was placed for driving the machinery. Besides the convenience of having this all together and detached from the other exhibition, there was a great advantage in being so abundantly lighted that every part of the machinery could be minutely examined, and their merits or defects fully appreciated.

The show was good as a whole, and some new articles claimed a particular share of attention.

Among these, we noticed the recently introduced manufactures from *gutta percha*. This has already assumed a great variety of forms under the plastic hands of Yankee ingenuity. We observed belts of all sizes, lengths, and thickness; carriage, wagon and dray springs; boots and shoes, and clothing of different forms. This material seems destined, hereafter, to become an important element among the useful arts of the United States. The display of India-rubber articles was also good, and among other items made from it, we noticed an inflated boat, capable of carrying several persons. This, we conceive, would be a valuable article for exploring expeditions, where shallow, rocky streams are to be passed, which precludes breakage and leakage from grounding. It is light and portable, and easily carried by hand; and a compact, yet strong and easily-expanding frame work, when inserted, keeps the outer covering in proper shape, and when separated, either may be folded and carried in the hand. A new material called Blake's patent fire and weather proof paint, or artificial slate, formed from a peculiar mineral, found near Akron, Ohio, when applied to wood gives it the appearance and durability of highly-polished slate, or compact marble, and is said to be enduring.

There were beautiful specimens of *scagliola*, or artificial marble columns, made from broken marble, sand, and cement, fully equalling the best specimens of the original in brilliancy, naturalness of color, and high-polish of surface. Mosaic work tables of the same material, at a short distance could not be distinguished from the genuine marble.

Papier-maché chairs, inlaid with pearl, and boxes of various kinds were exhibited, and they are said to be the first ever made in this country. Numerous other specimens of handy work from artists of almost every kind, useful and ornamental, were displayed in their usual profusion. There was one specimen of art which stared every one in the face as they entered, which, to our taste, at least, was in the highest degree objectionable. This was a wax loafer, in a red flannel shirt, and trowsers, with a segar in his mouth, cocked up in the most approved style of independent blackguardism. The workmanship of this may be good—we have such a disgust to the genus, we did not scan it closely—and the specimen may have been attractive enough to many of the visitors from a kindred sympathy; but we put it to the managers in all courtesy, whether this species of loaferism is not instinct and rampant enough in democratic America, without fostering its development or even gratifying its sympathies under their grave and reverend auspices. It ought to have been put into the glass hearse, which was equally conspicuous and offensive to good taste in this exhibition, and sent to potter's field for mutual deposit.

A napping machine for finishing broadcloths and cassimeres was shown, composed of a series of circular saws, like that of a cotton gin, but closely compacted together so as to form a solid cylinder. They appear indestructible from the use to which they are subjected. These machines are said to have superseded the use of teasles.

We noticed beautiful specimens of water-rotted hemp, of which 300 tons were furnished to the United States Navy Yard, at Charlestown, alone.

There were, also, very choice samples of flax, water rotted, and dressed by the American company in four days. A new impetus seems to have been given to the preparation of these, and their manufacture into various articles heretofore imported and largely consumed in this country. There is no reason why we should not raise all the flax and hemp we consume, and none why we should not manufacture it to the fullest extent of our own wants, aye, and export the fabrics abroad, as we now do those of our cotton. There were fine samples of raw and manufactured silk of various kinds, vestings, ribbons, handkerchiefs, fringes, sewings, &c. On one of these, we noticed a statement that \$3,000 worth of silk fabrics are turned out weekly from one establishment in the city of New York. We regret to add the fact, that a large proportion of the raw material used in these various manufactures, is brought from abroad. Why this continues to be the case among an intelligent population, with whom many of the staple productions are almost a drug in the market, passes our comprehension. The seed may be sown, or cuttings thickly transplanted, and from either, a dense mulberry hedge may be reared within two years, capable of feeding an indefinite quantity of worms. It is conceded, that no country in the world is better suited, in soil and climate for the culture of the mulberry, from Maine to Louisiana, than our own. It is also proved to be a profitable employment; for, two females, without any additional aid of any kind, raised \$600 worth of raw silk in four months. It is also a reasonably safe business, being equally removed from violent fluctuations in the market on one hand, and casualties from the loss of worms (the only disaster that can befall the pursuit), on the other. And it is proved we need the article for home consumption. Then why are we left so far behind the legitimate demand for this valuable product? American farmers and spinsters must answer, not we.

Of cheeses, we saw some of the largest ever exhibited; 600, 700, 1,500, 1,700 lbs. were the weights appended to them. We can almost credit the man's butter story, whose father used to have so large churnings that he set a saw mill on the hill side, below his house, which was entirely carried by buttermilk. They were made by Messrs. Austin & Co., genuine Yankees, on the Ohio Reserve. Such a mass of concrete casein seldom occurs, and should it happen to become fossilized, some remote geologists, in the dim futurity of ages to come, would certainly assume that a race of human mastodons once inhabited this sphere.

The show of agricultural implements was very good. Some novelties were exhibited here for the first time. We saw no implements, however, whose merits had been so far tested as to command them to special attention.

Flowers, Fruits, Vegetables, &c.—There was a very large display of fruits, which were in a considerable degree contributed by the pomological society. The exhibition of fruit was limited pretty much to apples and pears, though a few peaches, grapes and plums were shown. Some choice vegetables made their appearance in the shape of mammoth pumpkins, beets, &c., surmounted with giant corn

and its numerous sub-varieties. There was rather a dearth of articles in the amphitheatre of seats above; and though the rotunda was quite full, there was room for an additional quantity of our artists' works. The display on the whole, was good, and the receipts beyond those of any former year. We were glad to notice an efficient police on the premises, and good order and gratification seemed to pervade the exhibition throughout.

The amount received at the garden, exceeded \$15,000, which, with the free tickets issued, will give over 100,000 visitors.

The Cattle Show.—We did not see all the animals exhibited, but from those left when we were on the ground, and the appearance of many of these, we infer that it was inferior as a whole to any preceding year. The fact is, the farmers ought to take up this matter in their own right and on their own responsibility. The idea of awakening that enthusiasm on the subject of cattle and stock generally, among a commercial or manufacturing community, as this city notoriously is, must appear at a first glance as entirely preposterous. If any doubt exists of the fact, the history of these cattle shows will unqualifiedly establish it. The whole matter, funds, arrangement, &c., should be handed over at once to the farming public, and let them manage it in their own way. It would, undoubtedly be much better, and could not well be worse than it now is. The right men and right arrangements would certainly not fail to draw out a larger competition than we have yet seen there.

As it was, there were some very fine specimens of Devon oxen and Merino sheep exhibited by Mr. Blakeslee, of Connecticut; choice Alderneys, Ayrshires, as well as some cygnets, and a large assortment of other poultry, by R. L. Colt, Esq., of Patterson, N. J.; good Durhams by L. G. Morris, Esq., and various others which we have not room to specify particularly. The premiums awarded will show their number and relative merits.

THE COW—HER DISEASES AND MANAGEMENT.—No. 7.

Anticor, or Inflammation of the External Chest.—This species of inflammation, which often attacks the dewlap, generally arises from the same causes as other inflammations; but in the cow, it is particularly connected with improper feeding, and the treatment must be governed by similar principles. The symptoms are a sudden swelling of the dewlap, which gradually advances towards the head, and is attended with much hardness and heat.

The treatment most serviceable in this malady, is a purge, composed of the following ingredients:—

Flour of sulphur, 9 oz.; saltpetre (nitre), 1½ oz.; grains of Paradise, 5 drachms.

To be mixed together and given at one dose in two quarts of water gruel, sweetened with half a pint of molasses.

This complaint also admits of being much relieved by external applications, in the form of a liniment, or embrocation; as

Oil of vitriol (sulphuric acid), ½ oz.: linseed oil, 6 oz.; spirit of turpentine, 1½ oz.

To be mixed together and rubbed on the dewlap twice a day, having first made two or three incisions

with a fleam on the most depending part, which will produce a discharge, and thus powerfully assist the other means of relief.

After the operation of the above-named medicines, the alternative plan is next to be adopted, consisting in the use of the following:—

Saltpetre, 1½ oz.; camphor, ½ drachms; flour of sulphur, 3 oz.; long pepper, ½ oz.; gentian, ½ oz.

The whole to be mixed and given at one dose in three pints of warm ale, or strong beer, repeated once a day, or once every other day, according to circumstances. In most cases, this treatment will be found to cure, if the disease be taken at an early period; but if neglected, it is apt to terminate in gangrene, or mortification of the part.

A soft swelling sometimes appears in this situation, which is of a different nature from the anticor.

Red Water, or Staling of Blood.—This complaint is a peculiar species of inflammation of the kidneys, or of the bladder, which very often proves fatal. The symptoms are known by the urine being tinged with blood, which is generally voided after a long attempt to make it. The cows laboring under this disease, leave the rest of the herd and appear to have little or no appetite; their hair stands on end; their eyes are dull and heavy, and appear when the inflammation is far advanced, sunken in their heads. From the fever which attends this disease, the state of the bowels, which generally, at first, are loose, becomes the reverse in the end, and the parts affected very much contracted.

Notwithstanding the appearance of the disease is so formidable, in most cases, it will readily yield to a large dose of salts administered at one dose, with the following ingredients:—

Epsom salts, 1½ lbs.; althea ointment, 3 oz.; saltpetre, ½ oz.; fenugreek, in powder, 1½ oz.; powdered mustard seed, 1½ oz.

To be given in three quarts of gruel in which two ounces of soap have been dissolved. But if the bowels are in a relaxed state, and no costiveness has come on, then, instead of the former, a different course must be pursued, and the use of strengthening and gently astringent medicines employed, among which the following has been used with success:—

Turpentine, 18 drachms; red saunders, 1½ oz.; bayberries (*Laurus nobilis*), 1½ oz.; bole Armenian, 1½ oz.; saltpetre, ½ oz.

To be made up for one dose, and given in two quarts of water gruel, and repeated every day until the health of the animal is restored. By this means, the relaxed state of the kidneys will gradually be braced up, the water resume its natural color, and the disease be brought to a favorable termination.

Another mode of practice, which is not so common in this complaint, is pegging the dewlap, in the manner recommended for the Inflammation of the Lungs. The effect of this is, to give a sudden turn to the appearance of the water, and thus it would seem as if a revulsion were made from the seat of the disease. In all cases of moderate looseness, under this disorder, the practitioner should never be afraid to employ the salts as recommended above; for, as costiveness generally takes place in the end of the disease, this preliminary step pre-

vents its occurrence, and proves, when properly administered, the speediest method of cure. In order to render this mode of treatment still more effectual, it may be accompanied with decoctions, or drinks of the following vulnerary herbs:—

Shepherds' purse, a handful; comfrey root, washed, 2 lbs.; plantain, sage, and nettles, each, a large handful.

To be boiled in a gallon of water till it is reduced to three quarts; strain off, and give a quart once a day.

To coöperate with these means, the regimen of the cow must not be forgotten. Her diet should consist of the softest and most succulent kinds of food, such as Indian-meal gruel, currants, bran mash, &c. In point of situation, she should be kept under cover, and not exposed to the heat of the sun, either by placing her under a shed, or in a stable or barn.

IMPROVED ROTARY CYLINDER STRAW CUTTERS.

We observe the American Institute, of this city, recently awarded the first premium for Messrs. Rugles, Nourse & Mason's improved straw cutters. This we deem but a sheer act of justice to this highly meritorious implement. There was an unusual competition in this branch of agricultural implements, and numerous good specimens of cutters were offered for premiums. This machine was also awarded the first premium at the New-York State Fair, recently held at Buffalo, and it has also received numerous premiums at various county agricultural societies, mechanical associations, including the Mechanics' Fair, held at Worcester, Mass., during the last month. We shall give a particular description of it in our next. It is for sale at our Agricultural Warehouse, 189 and 191 Water street, New York.

IMPROVED REFRIGERATORS.

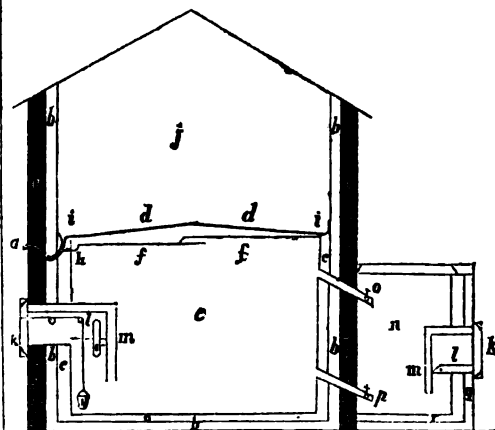
It has long been the practice of house keepers and others to preserve perishable articles by packing, or placing them in a box, or chest of ice, with which they come in contact or are exposed to a damp atmosphere, &c. These objections are entirely obviated by the method described below, which has been improved by me and patented in the United States. It offers essential advantages to persons who store ice for sale, as, by this plan, they can have, at all times, a large, cool, dry room attached to their ice houses, without any additional cost for ice, after the ice chamber has properly been filled to the depth of 10 or 12 feet, which need not be done but once a year.

This invention, I conceive, is founded on true philosophical principles. It is the natural tendency of heated air to ascend, and of cool air to descend; and if an apartment has ice properly applied, the whole of the air within it will eventually assume a uniformly low temperature. The proper application of ice should be on the top; as, from the warm air constantly ascending and coming in contact with the metallic ceiling, the temperature must very soon become uniformly cool; and the moisture of this warm air will be condensed in drops and carried out of the building, and the air inside thus kept dry.

The mode of entrance into the room is governed by the same principle. There can be but little or no displacement of the air inside the *well entrance*, which, in this case, acts as a valve, and so perfectly, too, that, when a lighted lamp is held below the well, and the doors are opened above, no disturbance of the flame is perceptible. The door way can be made at any height from the bottom that may suit the location, and the well can be constructed either inside or outside of the building.

What, then can be better for preserving fruit, vegetables, meat, cheese, &c., than a cool, dry room, easy of access, placed in any situation, and of any size? There are now several such in successful use, on a large scale.

Some may object to the keeping of ice above ground, but it is a well-ascertained fact, that this substance will keep best in this way, if well ventilated and kept dry—and it is very difficult to do this under ground.



IMPROVED REFRIGERATORS.—FIG. 84.

Explanation of the Engraving.—The walls of the main building, *a, a*, may be constructed of stone, brick, or wood—the latter is preferable from its dryness.

b, b, a space of six inches to be filled with sawdust, or any good non-conductor—oat chaff may be preferred, as it will not heat.

c, c, c, a space around the sides and bottom of preserving room *e*, four inches wide, made tight by having the boards plowed and grooved, to prevent any circulation of air, thereby rendering it a superior non-conductor, cutting of all possible communication from the outside atmosphere, and thus surrounding the preserver with a cool dry air.

d, a tight, tin or metallic floor laid on slats, supported on joists (slightly raised in the centre to throw the waste water to the sides), passing over the chambers *c, c, c*, forming the gutters *i, i*, and extending six inches up the sides.

e, preserving room, which can have an open floor, to make two stories, so that the air can have free circulation through it.

f, f, Dropping boards (a few inches below the ice floor *d*, one inch or more apart to allow a free passage of the air; overlapping each other with grooves, to convey the water from the lower side of floor *d*. This water is produced by condensation

from the atmosphere of the preserving room immediately after fresh articles have been put in.

g, waste pipe to conduct the water from the ice floor *d*, which has a bend retaining sufficient water to prevent the warm air from passing into the ice-house *j*.

h, gutter and pipe, bent as pipe *g*, to carry off the water from dropping boards *f*.

i, *z*, gutters in the tin floor over the air chambers, by which they are always kept cool.

j, ice on metal floor *d*, *d*, and non-conducting sides *b*, *b*, to be well ventilated from the top.

k, outside door of entrance.

l, trap door to cover the well entrance.

m, double air-tight partition, or well entrance, extending down four feet from trap door *l*.

Attachment.—*n*, store room of any size.

o, valve to let the warm air from room *n*, pass to the ice floor *d*.

p, valve to admit the cool air from preserving room *e*. Both valves must be open at the same time.

q, wall of store room.

r, a space filled with saw dust, or chaff, as in *b*, *b*, in the main building.

l, *m*, *k*, entrance of store room as in the main building.

Farmers, with one of these preserving houses, can, at all times, have on hand a general assortment of fresh meats, which will keep during a long time in a perfectly sweet state, as the temperature does not vary with that of the atmosphere outside. Likewise, when butter, eggs, &c., are at a low price, they will keep them safe until the prices advance. Sweet cider can also be kept as long as desired, without fermenting, as well as vegetables without danger of sprouting. If they have no good spring house, a part of the preserving room can be partitioned off, as an excellent substitute.

Chandlers, by this invention, can, in the hottest summer day, manufacture their mould candles in a winter temperature, into which they can slide their frames at pleasure.

The inventor, having constructed one of these refrigerators for his own use, in Philadelphia, was induced to take meat on storage, from the butchers in the neighboring market. The meat was brought heated from the stalls, and put into the room, and the next morning handed out perfectly fresh, cool, and in good condition. A good business could be made of this, and butchers themselves would find advantage, in the erection of such buildings. To those who cure meat in the summer, this plan must be peculiarly useful, and far superior to the old mode of sinking casks in ice. It is more uniform in temperature, not liable to accident, more convenient, and is also admirably adapted for the storage of cured meat.

To dairymen, who have heavy cheese and butter dairies, it would be particularly advantageous by enabling them to keep their goods safe, till they are ready to send them to market.

Where milk is kept on sale, as in the city of New York, the churns can be put into the cold room, and a stock can always be kept on hand; or if too much has been received, it can be safely kept until wanted.

By grocers and provision dealers a refrigerator on this principle, on a small scale can be erected in any convenient place, in their store, or cel-

lar, and be so arranged, that, with a small supply of ice daily, their fresh meats, lard, butter, eggs, milk, cheese, fruit, &c., can be preserved sweet, and free from flies.

To the proprietors of hotels, this invention and improvement in the use of ice, is peculiarly adapted. It can be erected in any part of the establishment, and perishable articles can be purchased in larger quantities, and consequently, at a lower rate, without risk of their spoiling, and also be prepared for any emergency, such as unusually large arrivals of travellers. THOMAS B. SMITH.

Philadelphia, October, 1848.

APPLE ORCHARDS.

WE are glad to notice at length, that we are getting a right class of men hold of our apple orchards. The subject is becoming reduced to a science; and a man who does not make his trees grow rapidly and produce abundantly, may possibly pass for a worthy, honest man, if not otherwise disqualified for the title, but he must be put down as a great ignoramus, and a most negligent, slovenly manager, so far at least, as the subject of fruit is concerned.

People who pay attention to their fruit trees are sure to make them bear. We have a glorious fruit soil and climate, the best on the face of the globe, and we ought to produce it in such quantities, that every household should be profusely supplied with the choicest varieties throughout the year. The best may be as easily raised as the worst, as the trees of such are not unfrequently the greatest bearers.

Shrewd men, who raise fruit for sale, now generally select one, two, or at most three or four kinds, which are of standard demand in market, good yielders, and proved to grow in perfection where cultivated, and confine themselves entirely to these. They see that they are properly set out, properly manured, the land properly cultivated among them, properly trimmed, and properly managed in every particular, and they are sure to find an abundant supply of choice fruit on their trees in the autumn.

A gentleman within our knowledge, has a small orchard on the Hudson River, of less than seven acres, which produces from \$500 to \$750 worth of apples annually. This is not one year of plenty and another or two of famine, but is a steady, regular average yield. This man does not have, what we hear often called by haphazard farmers *bearing years*, or rather he has no other. And all this is secured by the simplest process, viz: *good management*. He scrapes the trunks of his trees every year, and immediately and before the insects and their larvæ can find a hiding place when thus exposed. He gives them a thorough drenching of wood ashes and hot water, as thick as can be made to run freely from a whitewash brush. This practice, with lime occasionally added about the roots at the trunk, with the management we have before indicated, gives the satisfactory results we have mentioned. After carefully hand-picking his apples, he heads them up in barrels, with a few auger holes in each end, which are then thrown upon their bilge, or sides, and allowed to remain exposed to the weather under the trees, till there is danger of freezing, when they are housed if not previously sold.

AGRICULTURE OF THE CHINESE.—No. 11.

Harvesting of the Tea Leaves.—I have already said that the species of plant which produces the black teas, near Foo-chow, is the very same as that found in the green-tea districts of the north. Being further south, and of course in a hotter climate, the tea plant of Fokien is generally grown at a high elevation amongst the hills. At the risk of some little repetition I will insert an account of my visit to the tea hills of Fokien.

Every cottager, or small farmer, has two or three patches of tea shrubs growing on the hill sides, which are generally planted and kept in order by the members of his own family. When the gathering season arrives, the cottage doors are locked, and all proceed to the hills with their baskets and commence plucking the leaves. This business, of course, only goes on during fine days when the leaves are dry.

The first gathering takes place just when the leaf buds begin to unfold themselves in early spring. This tea is scarce and of a very superior quality, being, in fact, the same, or nearly the same, as that which is made from the young leaves in the green-tea district. The second gathering produces the principal crop of the season; the third crop is coarse and inferior.

Preparation of the Leaves.—When the leaves are brought home from the hills, they are first of all emptied out into large flat bamboo sieves, and, providing the day is not too bright, are exposed in the open air to dry off any superfluous moisture. When this moisture has evaporated, convenient portions of the leaves are brought in and thrown into a round, flat, iron pan, such as the Chinese use for boiling their rice, and are exposed to the heat of a gentle fire which is lighted below them. As soon as this heat reaches them, they give out a large quantity of moisture with a crackling noise, and they soon become soft and pliant. The person who attends to them stirs them about with his hands, and in about five minutes takes them out and puts in a fresh supply. The heated leaves are emptied out on a large round and flat bamboo sieve, which is placed upon a table at a convenient height from the ground, and the process of rolling commences. Three or four persons take a portion of the heated leaves and begin to squeeze and roll them in the manner which I have already described. This goes on for a minute or two, when each person takes his portion and examines the effects which have already been produced; it is then shaken well out upon the table, after which it is gathered up and the operation of rolling and squeezing goes on as before. This is repeated three or four times, and then the whole is shaken well out, on another large flat bamboo sieve, in such a manner as to spread it thinly upon it.

Up to this stage of the process, all the leaves have been subjected to the same treatment. But the tea in this district is now divided into two classes, each of which is treated in a peculiar manner. They are called, in the language of the district, *Luk-cha* and *Hong-cha*. The former seems to be a kind of mixture of black and green, and I should imagine it only made for the use of the natives themselves; the latter is our common black tea.

The *Luk-cha* is prepared in the following manner:—The leaves after being rolled and squeezed, are shaken out thinly, and exposed to the air to dry. Great care is taken not to expose them in this state to much bright sunshine, and hence a fine dry day when the sun is partially obscured by thin clouds is always preferred for this part of the operation. After being exposed for an hour or two, or even longer, as the case may be, for this depends on a variety of circumstances, such as the dryness of the air, or the convenience of the workpeople, they are brought within doors, and the drying process commences. The flat rice pan, in which they are heated, is so constructed, that it can be taken out at the pleasure of the cottager. It is now removed, and a bamboo sieve, exactly the same size, is put into its place, and filled with the leaves. A very slow and steady fire of wood, or charcoal, is now kept up, and the remains of the moisture in the leaves is thus gradually and slowly evaporated. After a few minutes, the sieve is lifted and placed in one of a larger size, with a closer bottom. The leaves are then well shaken up and turned over, and any of the smaller tea which falls through the open sieve, during the operation, is thus collected in the under one, and carefully saved. Both sieves are now placed over the fire, and the leaves carefully watched and turned frequently, for about an hour, when the tea is considered properly fired. Sometimes, if the day is fine, it is exposed a little while to the sun, before it is packed away.

The *Hong-cha*, or our common black tea, is prepared rather differently. In the first place, the natives seem more particular in the rolling process, especially when it is for the foreign market, although the operation is performed much in the same way. After heating and rolling, the leaves are shaken out on large screens, and subjected to the action of the open air; the natives in this, as in all other cases, taking care not to expose them to a bright and burning sun. This is a most important part of the manufacture. The black tea is left in this state sometimes for two or three days, before it is fired, which, doubtless, is one cause why the color of this tea is so much darker than those kinds which are prepared from the same plants and quickly dried.

After being exposed for a sufficient length of time, to the action of the air, the leaves are taken in for the purpose of firing. Instead, however, of being heated in baskets, like the other kind, this is thrown at once into the pan. An old and experienced person takes his place at the furnace, and keeps up a slow and steady fire, while it is the duty of the younger branches of the family to keep the leaves in the pan in continual motion, and prevent them from being burned. This is done by means of little hand brushes, made from the prolific bamboo, the outer, flinty part being spilt for this purpose. The tea prepared in this manner soon becomes of a dark color, and is quite different in appearance from the *Luk-cha*. After it has been sufficiently dried, it has, of course, to undergo the other operations of sifting, picking, and dividing, before it is fit to be packed up for a foreign market.

From hence it appears, that the black tea is rendered darker in color, first, by being longer ex-

posed to the air, in a soft and moist state; and, secondly, by being subjected to a greater degree of fire heat. With regard to the green teas, there can be no doubt that those used by the Chinese themselves are of the genuine color which they acquire in the drying; and that those "blooming" kinds, prepared to suit our depraved tastes, are, one, and all, dyed. Moreover, in conclusion, I may repeat, what I have already proved, that the black and green teas of the north are produced from the same species, the *Thea viridis*, and that the true Canton teas are manufactured from the leaves of the *Thea bohea*. It therefore follows, that the black teas can be, and, in fact, are made from both species; and, with regard to the green, as it is the result of a dye, the Chinese, I doubt not, could substitute for that color either red or yellow, should our taste change and lead us to prefer more glaring tints!

There are several different kinds of scented flowers, which are grown in particular districts, for the purpose of mixing with and perfuming the tea. Amongst these I may mention the following:—*Olea fragrans*, *Chloranthus inconspicuus*, *Aglaia odorata*, &c. I believe these flowers are dried by themselves, and afterwards mixed with the teas.

VENTILATION ESSENTIAL TO HEALTH.

THE bad state of the atmosphere of stove-heated rooms cannot be cured by any amount of steaming water. Ventilation is what is wanted, and what is always found wanting, and what renders the atmosphere of our churches and other public rooms so often so unfit for human respiration.

Rooms should not be "frequently ventilated," but *always* so. Every tight room should have a ventilator constructed in the ceiling, to answer the purpose of the good old-fashioned fire place, of keeping up a constant circulation of air.

Some one in your pages, I think, has said that "stoves were great savers of fuel, at the expense of human lives"—all of which is for the want of ventilation. It is a most serious fault in the construction of nine tenths of all the school houses that are heated by stoves, that there is no ventilation. I have no doubt but thousands of children in the United States are annually sent to a premature grave by diseases contracted, aye, created, in school rooms. If our wise men, who sometimes make very foolish laws, would enact that every school room should be so constructed as to remedy this evil, they would for once show the world they possessed some feelings of humanity at least. Daniel B. Thompson, of Montpelier, Vt., author of "*Locke Amsden*," is worthy to be remembered by every child in America, for the beautiful manner in which he has illustrated the subject of ventilating school houses.

SOLON ROBINSON.

Crown Point, Ia., Sept., 1848.

DRINK AND DISEASE.—It is remarkable that all the diseases caused from drinking spirituous liquors are liable to become hereditary, even to the third generation, and gradually increase, if the curse be continued, till the family becomes extinct.—Dr. Darwin.

WHEATEN GRITS, OR CRACKED WHEAT.

WE have often spoken of the great value of cracked wheat mush, as an article of diet in constipation, and, in fact, for all persons, whether sick or well. Have the best of wheat—of good, plump, matured grain. Wash it if necessary. Have it cracked coarsely, in a mill that will cut rather than crush it. The less you have ground at a time the better, for the fresh-ground article is the best. The wheat should be boiled in pure, soft water (rain water is excellent, and if people were half as particular in obtaining water as tea, coffee, tobacco, and a thousand other useless and pernicious things to please the palate, they would always have enough pure soft water). Boil this an hour at least, and two hours is still better, for the more we cook farinaceous food the better. Eat this once, and better, two times a day as a regular meal, with a very moderate portion of milk, stewed fruit, honey, sugar, or molasses. But be very careful as to any or all of these condiments. If too much milk is taken, the head is oppressed, because of the stomach's too hard work; and so of the other articles, particularly sweets. This wheat, then, is one of the best possible forms of food for people, either sick or well.

The family of one of our patients has experimented a good deal, of late, upon making brown bread. The form that suits them best is that made by boiling the cracked wheat at least for two hours. This is then made into small cakes, with the use of a sufficient quantity of fine flour to make the dough adhere properly. The cakes are then baked without salt, yeast, or any addition whatever, and are much relished. It is one of the most foolish things in the world for a person to eat superfine bread, when he can possibly get any other.—*Water Cure Journal*.

HINTS FOR THE PROMOTION AND MAINTAINANCE OF HEALTH.

THERE is really no one subject of greater importance to our farming population, and indeed to the whole community, than providing well ventilated sleeping apartments. It is often asked why the human race degenerates—or why it is seen in so much more vigor in the wilderness, or prairies occupied by the huntsman, or the rude cabin tenanted by the hardy pioneer? The first—degeneracy of the race—we do not credit, but believe at the period of the general limitation of life to threescore years and ten, if not from the creation of man, his stature and physical powers have been, in the best specimens at least, essentially the same. All human tradition, all authentic history go to confirm these views, nor are they discredited by any researches of science or the relics of any of the handy works of ancient art. But the latter we daily witness in the lengthened limbs and stalwart forms of many of our western inhabitants, and such of our farming population as have, *through successive generations*, enjoyed a full, and at all times, night as well as day, a free circulation of pure air.

Food, undoubtedly has much to do with this healthy development, and in two ways, positively, as well as negatively—for it should not only be good and unstinted, but it should also, not be in

such variety and profusion, and so temptingly prepared, as to lead to excess, by which the physical as well as the mental powers become choked, vitiated, and stupified.

But we deem a pure, healthful, and free circulation of air the principal agent in producing longevity, health, hardiness, and size. Excepting farmers, we have few *classes* of men in this country, hereditary in their occupations, from whom we can draw general conclusions on this subject, but we have an accumulation of evidence from abroad, where society remains unchanged for centuries, which go to establish these views conclusively. The shoemakers, the tailors, the silversmiths of the old world, generally, and almost without exception where these trades have been perpetuated from generation to generation, have been diminutive and diseased. The blacksmiths, the carpenters, the yeomanry, the soldiers, and gentlemen have been generally healthy, strong, and long-lived. It is not to be apprehended, that our rural population will not get their share of healthful breezes during the day. The danger is, and we have too often seen it even among intelligent and thriving people, who ought to know, and can afford to provide better, that from six to eight hours of each day (one fourth to one third), of their whole lives are spent in close 7 by 9-foot boxes (kennels or vaults would be an appropriate term for them), where not a breath of air is admitted through the night, and sometimes, scarcely through the day. Much as the damp and chilling influences of an unroofed exposure to the night air are to be deprecated, they are hardly more so than such a total exclusion of the second great element in the order of creation. Air was made, unstinted as light and water, and much more available than either, that it might be enjoyed in all its healthfulness and purity by every descendant of Adam. It can't be taxed like light in England, nor can it be doled out at so much per head, per quarter, as the Croton water, by our city fathers. Whatever may be the case with *free soil*, *free air* may be enjoyed by every man, woman, and child, who can erect a shanty, a log house, or a mud cottage on the surface of the earth. A draft of night air, over the bed, unless it be dry and temperate, as it is frequently found in latitudes far south, and in peculiar seasons and localities, is always objectionable; but free circulation through the apartment is absolutely essential in all rooms of moderate size, or even in large ones, when occupied by two or more persons.

We once knew a family of seven or eight children, one half of whom, during boyhood, occupied the unfinished upper story of a building, through which the air poured in torrents, and often covered their beds with the wintry snow; the others occupied low, close apartments. The former are now in the enjoyment of an advanced and vigorous manhood; all the latter reached the grave before they attained maturity, the result undoubtedly of vitiated air acting upon the susceptible membranes of the lungs, and producing that loathsome disease we call consumption.

No matter, how cold the weather, let in the air, and let it in profusely. Pile on the clothing if necessary, but do not exclude the atmosphere. It comes fraught with the quadruple blessings of

health, vigor, pleasurable existence, and longevity. "We breathe freer and deeper," was the announcement of a glorious triumph to his delighted audience, by the profoundest genius of the age; and he thus happily characterized a mental and moral, by a physical, enjoyment equally unequivocal.

Close and confined air depresses the spirits and clogs the vital energies. A steamboat might as well make head way through a quagmire, as a man retain his health and vigor in a stagnant or vitiated atmosphere. My limited space will not permit me now to tell you why, but you can learn it from every elemental work of chemistry or physiology.

Light and heat, freely admitted through our sleeping apartments, seem equally essential to health, as a free circulation of air. It has been found, even in a sultry climate, during epidemics and diseases, the result of intense and long-continued heat, that the inhabitants of those buildings occupying the north sides of streets, and thus having a southern exposure, through which the rays of the sun were admitted, were the last to be attacked by disease, and suffered the least from its effects.

It is of the greatest importance to open the windows and shutters to their utmost capacity and let in the fresh morning sun and air. Get out of the bed rooms yourselves, at the earliest dawn, and let the air and sunlight take your place. Bathe in the fresh morning air, abroad, while it is renewing the healthfulness and comfort of your room for the coming evening. You will thus be refreshed and invigorated for the duties of the day, and be doubly prepared for the refreshing influence of sleep at night. There is no more healthful practice than the old one handed down by the descendants of the Puritans in our rural districts, of hanging or spreading out the bedding to the uninterrupted rays of the sun during a portion of the day.

A shower bath, or ablutions with cold water, applied in any way, by the hand, or with a sponge or towel to every part of the body, which is then thoroughly rubbed dry, if steadily pursued every morning, will tend greatly to the avoidance of colds and disease, and the preservation of health. This is always safe when a glow follows the friction of the towels, and unsafe when the system remains permanently chilled by the application.

These few hints, if rigidly observed, and accompanied by a moderate indulgence in plain, wholesome, and nutritious food, at regular periods (the absence of high-seasoned viands and stimulating drinks); full, regular, but not over-strained exercise, cheerful spirits and a mind at peace with itself and all the world, will ensure the full measure of life and enjoyment allotted to humanity.

R. L. A.

New York, Sept. 12th, 1848.

USES FOR CORN HUSKS.—The outside husks of Indian corn, neatly platted, with the braids stitched together from the centre to the edge, make excellent, durable door mats. The inner husks when coarsely hatched, and freed from the end of the cob, can be made into comfortable mattresses, that many people prefer to those made of curled hair; also, into fragrant pillows, sofa cushions, &c.

AN OLD HOUSEKEEPER.

TEXAS WHEAT.

WE have learned from a gentleman from Corsicana, in Limestone county, that about forty thousand bushels of wheat have been raised in Limestone and Navarro counties this season. A part of this was harvested as early as the 9th of May, and is of an excellent quality. The grains are plump and large, and the wheat, it is believed, will average over sixty pounds to the bushel. We understand that a large quantity of wheat has been raised in Trinity Valley above Dallas. The experiments in the culture of this grain, indicate that the whole region, watered by the Trinity and its tributaries above Smithfield, is as well adapted to the culture of wheat as the best wheat-growing regions in the middle states. The soil, in that section, contains a large proportion of lime, and it is probably owing to the presence of this mineral that it is better adapted to the culture of wheat than the soil near the coast. We are confident that there is a belt of country extending quite across Texas from Red River to the Rio Grande, and including most of the undulating region of that country, that is as well adapted to the culture of wheat as any portion of the Union. This section comprises at least thirty millions of acres, and may, at some future day, yield breadstuffs sufficient for the consumption of more than ten millions of people.—*Telegraph*.

REVIEW OF THE JULY NUMBER OF THE AGRICULTURIST.

The postage upon this paper is stated by the editor, to be one cent to any distance within the state of New York, and one and a half cents to all places beyond. If this is so, then I am behind in my reckoning. It used to be one cent to all distances within one hundred miles, as well as within the state. In regard to postage, the people of these United States should make a vigorous effort to have one more reform law passed. We want a uniform letter rate of five cents, and newspaper rate of one half cent, when prepaid, and one cent when not prepaid. All letters originally deposited in any office in this country, to be prepaid; and the word "free" to be *absolutely unknown*. With such a law, the Post-Office Department could sustain itself, and if it did not, what then? Does the War Department sustain itself? There would be more reason and justice in requiring it to do so, than there is in requiring the poor, hard-working laborers of the country to help the Post-Office Department to pay all expenses, by levying an onerous tax upon their correspondents, while that of all the "eight-dollar-a-day men" is allowed to go free.

Uniting the Farmers' Cabinet with the Agriculturist.—Annexation is the order of the day. I hope this will prove more profitable than I view some others. And I hope this arrangement will not only be profitable to the old subscribers of the Cabinet, but that my very worthy and much-esteemed friend, Josiah Tatem, will also have a share of the profit of the union. I am aware that the publication of the Cabinet has not been profitable to him of late.

Time for Cutting Wheat.—I would always cut wheat at the time known by farmers as "in the dough." Much experience has satisfied my mind

that the grain will be heavier, the flour sweeter, whiter, and more abundant.

Management of Cheese Dairies.—This report of Mr. Fish is a very interesting one. As to salting cheese, I wish he would state his opinion in regard to its being badly injured by using common New-York salt. It is my opinion that much of it is utterly unfit for this purpose, and yet a great many persons still continue to use it. While upon the subject of cheese, I will notice a very short and rather caustic article from an old correspondent of yours, whose name we do not very often see of late. Is he afraid of Reviewer, or is he in a pet because I blew up his "balloon" once. I thought Mr. Robinson the last man to take offence at a little joke, and really, I hope he will give me a chance at him again. I can assure him that I have been quite a constant reader of his articles for many years, and should like to continue. Indeed, I have been sometimes tempted to treat "Yankee Farming" as from his pen. If I mistake, I am sure the real author has no occasion to ruffle his feathers at the comparison. But about cheese making at Chicago. Is it possible that there is not cheese enough made in that great region of grass, to supply home consumption. If so, I do not wonder at the sneering remarks of Mr. Robinson. I wonder if this article is not a small clipping of a larger one? It looks like it.

Adulteration of Food.—I am well pleased to see that the able pen of the editor of this paper has become engaged in the discussion of this most important subject. And I hope that he will continue the numbers, and particularize every species of cheating, till he makes one of the most valuable series of papers ever published. I certainly approve of the law spoken of as about being passed by Congress to suppress the importation of adulterated drugs, and would willingly subscribe to have it made as stringent as that of Prussia, in regard to adulterated food. But after all, the law would be ineffectual without a change in the public mind. That must be wrought upon by editors, and I hope the promised articles upon this subject, will lay the foundation for such a change. It surely is time. The evil is almost past belief.

A Curious Fact in Butter Making.—On reading this little article to my *frau*, she corroborated the observation of Professor Johnstone, in every particular. In fact I had been long assured that milking cows in winter, more than once a day, costs more than it comes to. Cows that are milked in winter for butter, will, I am satisfied, yield as much from one milking, regularly each morning, as if milked twice a day. It is well worth carefully experimenting upon.

Dimensions of Apartments.—There never was more truth and good sense crowded into eight short lines, than there is in these, which say that no lodging room should ever be less than 10 by 14 feet, and 8 feet high. In fact, it is one of the greatest faults of modern buildings, that many of the rooms are only just about the size of a modern travelling trunk.

Cultivation of Cotton in China.—It appears by this article, that Whitney's cotton gin has never reached that country; and probably if it should, it

would be torn in pieces by the ignorant population, as Jacquard's loom was in France, and some of Arkwright's first spinning machines were in England. Such is the prejudice of ignorance in favor of old customs; for instances of which we need not go to Europe nor China.

Utility of Wasps and Hornets.—Then why do we keep up the constant war of extermination against them? Is it for the same reason that we kill bats, spiders, and toads, so that we can have more flies and bugs to scold about?

Letters of R. L. Allen, No. 5.—In speaking of swine in Louisiana, Mr. Allen says: "Could the meat-pickling apparatus be perfected, so as to be successfully applied here," &c. Are we to understand from this, that Mr. Allen is of opinion that said apparatus is not yet so perfect that meat could be salted with it so as to be safely cured at New Orleans? [Yes.] I had until now, always supposed that it might be; but I am not so sure that it would be profitable to raise hogs in that vicinity for that purpose, when all the vast region of the valley of the Ohio and upper Mississippi, can do the thing in "the natural way," and send their bacon to the New-Orleans market to be sold at about the same price by the cord, that cord wood is. I don't know about competing with the Suckers, Hoosiers, and Buckeyes.

Hot Water for Trees.—To be used with care and proper judgment, without any danger. In the case detailed by Mr. Bacon, of boiling water poured from the spout of a tea kettle upon the locust, it is worthy of remark that this tree will bear greater heat than many other trees. And I would recommend his plan of getting rid of the borer to be pursued. I should have no hesitation to use lye boiling hot, instead of water; and I have no doubt that will be found a perfectly safe and certain remedy for the peach worm. It is probable that a small boiler, with a convenient steaming apparatus, would be found preferable, and more speedy in its application. There is no danger of killing the tree, unless used very excessively.

Cisterns.—Dr. Phillips says that since families of his acquaintance have used cistern water, they have been much more healthy than when using *other water*. Will Dr. P. be kind enough to state what kind of water they used before? Whether from springs, wells, ponds, or streams, or all of them, as I know is common in some parts of the south. And what is the quality of water in the wells of your neighborhood, Doctor, hard or soft? Does your cistern water ever get an unpleasant smell, and how do you cleanse it for drinking? Of course you have no ice. How, then, do you cool it? Or do you, like myself, condemn the extravagant use of ice, as unnecessary? The meaning of the word *moderation*, seems to be lost. If it were not for that, I would not set my face so strongly against tea and coffee, and everything that is equally poisonous and intoxicating when used immoderately.

Navy Butter for Foreign Stations.—This matter all lies in a nutshell. The idea that none but Orange-county butter will keep, which is the opinion of "the gentleman who has special charge of this department," is an idea that convinces me that he knows no more about the principle of

butter making, than thousands of persons who annually manufacture and send to market a great many barrels, tubs, kegs, and pots, of a substance obtained from milk, which might very properly be termed "cow grease." Butter, which is the oily part of milk, and nothing else, and which, if made agreeably to an article in the June number of this paper, whether in Orange county, or any other county of the northern states, where sweet feed grows, and packed in an air-tight vessel, will keep sweet as long as the navy of this government will need butter, whether made "in the mode of *Irish rose butter*," or in the mode directed by good sound common sense, which it seems that some gentlemen, in official stations, do not possess in a very superlative degree. I think I have seen enough of Irish butter making, to know something of it, as I once made a long tour through that country; and when master of the good ship —, often touched at Irish ports. It is no wonder that the gentlemen corresponded with, although extensive dealers in Irish butter, "never heard of *rose butter*," because it is only a local term in the neighborhood of Waterford, to indicate butter fresh churned in the spring of the year. It originated with a celebrated butter maker there, stamping her lumps for market with the representation of a rose. If every other county is to be prevented from sharing in the trade of butter for the navy, through the whim of "the gentleman who has special charge of this department," unless he can smell an "Irish rose" from Orange county, it is high time that that gentleman was "turned out to grass," until "a rose, by some other name, would smell as sweet."

Do Lead Pipes Injure Water?—This question is so fully and fairly answered by the editor, that it is worth while for every person who is in the least interested, to turn back to page 215, and read that article again. Or it may be fully understood that lead pipes, in all limestone regions, are as innocuous, and perfectly free from danger, as a clean tin pail. The white film with which they become coated, will never dissolve nor change through long ages of use. But if any have doubts, let them use iron. The prices of cast or wrought iron pipes, are now so low, that they are easily within reach, so far as regards cost.

Wire Fences.—Has anybody tried the experiment of fencing the almost boundless prairies of the west with iron? It seems to me that if people would only quit the barbarous fashion of letting hogs run at large, that these fertile lands might be fenced with iron very advantageously. And certainly in all the old-settled regions of the eastern states, such fence could be as cheaply built as any other that would be equally good, while it is to be preferred for its beauty. What can be prettier than beautiful yards, gardens, and lawns, inclosed with wire fence? or what can look worse than an old rickety wooden one? I hope to live to see much of the latter give place to iron, even including the posts of the same material.

Superiority of Wool Mattresses.—Superior to what? So far as health is concerned, they are certainly superior to feathers. But wool is not superior to hair for luxurious comfort, nor for health; and certainly it should not be for cheapness. For the coarsest kind of wool is good for some kinds

of manufactures, while hair is of but little use aside from mattress stuffing. Then again, if cotton does not make so good a mattress as wool, it certainly makes a very good one; and so does what is usually called Spanish moss. I have one of the latter that I brought from the south, and slept upon for twenty years; and it is very good yet. Either cotton or moss, must be cheaper than wool, and if as good to sleep upon, where is the superiority?

Various Uses to which Glass may be Applied.—Some of these uses are singular enough. But one great question would be as to the expense. Glass milk pans I should approve of, but doubt the economy of "glass rolling pins." So I should of glass roofs, while other equally good or better materials are so abundant and cheap. Where it is needed for light, of course the expense is not to be considered; but it is hardly necessary to use glass for coffins, on that account. And I cannot conceive that glass chairs would be superior to iron, or a glass table, or sideboard, much superior to good solid mahogany. I wonder the writer did not recommend glass wagon wheels. [He is going to do this when he gets on his glass coat and boots, now making.]

Letters from Abroad.—Who is F. R. S.? I should like to know the name of a writer of such very interesting and instructive letters. I never have read anything about wine making with more satisfaction than these letters. But I cannot help thinking that Yankee ingenuity would find other means to bruise the grapes, besides all this treading of men's bare feet. [Probably, but recollect he is describing how it is done in Portugal, not how it will be done in Yankeedom at some future day.]

Meeting of the Royal Agricultural Society of England.—Much of the conversation reported at this meeting is so interesting and applicable to this country, that it is well worth a more careful perusal than many have perhaps bestowed upon it. The subject of what is the proper time to remove colts, calves, and lambs from sucking their mothers, is a subject that has been entirely too much neglected in the discussions of farmers' clubs, and in agricultural papers in this country. The idea, too, of making charcoal from sawdust, is well worthy of discussion.

Death of Turpentine Trees.—What a subject of melancholy reflection. That not only single trees, but whole forests should perish by the attack of such an insignificant insect, which, when seen separate, seems quite beneath our notice. And it seems that in the very district where the ravages of the insect have been most fatal, that "no satisfactory knowledge of the cause has been obtained, nor remedy found." The remedy will be much harder to find than the cause. The evil is certainly a serious one. Why does not the state of North Carolina offer a prize of \$10,000, or some such liberal sum for a remedy for this disease? or is it an unconstitutional subject? or one beneath the notice of a wise legislature?

A Cheap Paint.—If this article is what it purports to be, it is well worth my while to call the reader's attention to it again. Mr. Boyle does not say whether it is calculated for outside painting or

not. This is important to know. Please to ask him to inform us.

Color of Eggs.—The color of egg shells is not alone affected by what they eat. The color of the yolk can be changed from a bright orange to almost white, by a change of feed. The richness of the eggs, too, can be affected as much as can that of milk, by a corresponding richness of feed.

Ginger Syrup.—I thank "E. S.," for a most excellent drink for warm weather. But I must differ with her about using water in butter making. I cannot believe that the flavor of butter can be injured by the free use of cold water. But we won't dispute the point.

The Interesting Dairy Experiment, noticed under the head of Foreign Agricultural News, I am not quite satisfied with. I hope the experiment will be repeated in various places, and the results published. It is worthy the attention of butter makers to know the exact depth at which milk should be set to cast up the greatest amount of cream. Several other articles I would gladly have noticed, but I fear that your readers will grow tired of taking these doses, although homœopathically administered. Yet from the absence of any scolding on their part, I am in hopes that they are still pleased with these monthly meetings with your

REVIEWER.

JUST TRIBUTES SHOWN THE OX.

AT the eighth annual meeting of the Newcastle County, (Pa.) Agricultural Society and Institute, held in September, 1843, the following just tributes were paid to the merits of "the patient ox," that formed no inconsiderable part of the show in the procession. The oxen of the different "Hundreds" were placed by themselves in different parts of the line, the leading yoke from each Hundred, supported a banner, with an appropriate inscription. The Brandywine Hundred bore the motto—

ECONOMY AND UTILITY.

"Our harness cheap, no grain we eat,
And want no shoes upon our feet."

The Christiana Hundred—

THE FAITHFUL OX, THE ANCIENT TEAM OF THE ROMANS.

"With patient, unremitting toil,
We break the clod of every soil."

The Mill-Creek Hundred, with this most appropriate and true sentiment on their banner—

"Our labor pays interest, and our bodies return principle—
The safest of all stock then, for the farmer, is live stock."

The oxen of Newcastle Hundred, were in the rear, and attached to a cart—and the motto on their banner told the story of the faithful creatures who bore it—

"We plow the furrow, and draw the loaded cart,
And die that you may live."

Both living and dead, he is distinguished from all other animals employed by the farmer.

M.

VENTILATION.—In airing a room, both the upper and the lower parts of the window should be opened, as the bad and heated air, from its lightness, will pass out at the top, and the fresh, cool air come in at the bottom.

AGRICULTURAL BOTANY.—No. 1.

AN Enumeration and Description of Useful Plants and Weeds, which merit the notice, or require the attention of American Agriculturists, by William Darlington, M. D., is the title of a neat volume of over three hundred pages, and contains the following modest dedication:—

"To the young farmers of the United States, this humble attempt to aid, and persuade them to cultivate a department of science essential to an enlarged agriculture, and indispensable to an accomplished yeomanry, is respectfully dedicated by the author." The work was printed by Edward C. Darlington, son of the author, and is a very creditable specimen of Lancaster, Pennsylvania, typography, which was published in Philadelphia, in the early part of the summer of 1847, by J. W. Moore, 138 Chestnut street.

More than a year has passed since it made its appearance, and I have waited with feelings of mingled surprise and disappointment for an able and more experienced pen than mine to make its merits known to the agricultural community, for whose especial benefit it was intended, though its usefulness is by no means confined to that class of readers; but except a very short and unsatisfactory notice of it, in the November number of Silliman's "Journal of Science and Arts," no mention of it has yet met my eye; and even this useful journal, I am sorry to say, does not appear to appreciate it as it should, nor is it in general circulation among the mass of farmers, who are apt to look with a suspicious eye upon all works of a scientific character, and therefore leave Silliman's invaluable journal to men of science, as if to them it should be exclusively restricted. Moreover, as the notice above referred to, does not convey a just estimate of the merits of this highly useful, but unassuming little volume, I am at length impelled by the deep interest I take in the advancement of the science of farming, to call public attention to a book which needs only be known, to be sought with avidity, and placed in the hands of every man who wishes to be acquainted with the plants he cultivates, and the weeds he tries, often in vain, to exterminate.

I have the highest authority in the botanical world in saying that "whatever Dr. Darlington undertakes to do, is well done;" and another not less high in the agricultural community, for asserting that "never before has a book appeared, containing, in so small a compass, so much that is of daily, practical use to the farmer and country gentleman, and as yet so little known or appreciated beyond the comparatively small circle of the author's friends.

In the excellent prefatory remarks, when alluding to the still existing prejudices against book farming, the author says: "My views have not been directed to that unpromising quarter. I address myself to the youthful and aspiring agriculturists of our country, who seek to elevate their noble profession to its just rank among human pursuits—and who feel that the exercise of *intellect*, as well as of *muscle*, is indispensable to the accomplishment of their purpose." And again: "It is a great mistake, in my opinion, to suppose that the significant language of our science must necessarily

be merged in the vernacular idiom, or degraded into a local *Patois*, in order to adapt it to the capacities of intelligent, practical men. An active intellect more readily acquires *new terms* appropriate to a science, than *new meanings* of old familiar words; and hence it is that most persons, as they advance in any department of knowledge, are apt to discard all equivocal terms, and substitute those which are definite, technical, and peculiar. Instead, therefore, of *writing down* to the level of boorish apprehension, I would rather see agricultural works generally *written up* to the scientific standard. I would have our young farmers taught to appreciate the importance of scientific precision, and incited to take their appropriate position in the intellectual community."

Were I not afraid of making this article too long, I should like to insert more of Dr. Darlington's sensible, convincing remarks. Indeed, I think a page of your journal could hardly be better filled than with the whole preface, as the best recommendation of the book itself.

Following the preface, is a copious glossary, rendering into plain English all the botanical and technical terms used in the book; then there is an explanation of the abbreviations and references. Next to this, we find the Linnæan classification of the genera, for the convenience of those who are accustomed to investigate plants by that method. Then follows a synoptical view of the general arrangement and grouping of the natural orders to which the plants here described are referable, which are arranged in accordance with the natural system. Upwards of two hundred pages, making the main body of the work, are devoted to clear and minute descriptions, generic and specific; each species further illustrated by interesting observations on the origin, history, and utility or worthlessness, of each plant; proving, in an ornamental, agricultural, or medicinal point of view, the author to be a sagacious observer, and able to speak as a good practical farmer, an excellent botanist, and an experienced physician;—the three departments of science to which he has devoted his long and well-spent life. He does not say it is his intention to describe all the plants that an accomplished agriculturist would wish to know; but to include those only of which no intelligent farmer would willingly remain ignorant.

At the close of the volume, preceding the index of orders, tribes, genera, and species, a few pages are given to an enumeration of all the plants treated of in the work, classified according to their characters and properties. "1. Plants yielding roots, herbage, or food for man; eighty in number, of which fifty-seven are cultivated. 2. Plants yielding food exclusively, or chiefly, for domestic animals; thirty in number, of which ten are cultivated. 3. Plants yielding condiments and drinks; thirty-seven in number, of which thirty-three are cultivated. 4. Medicinal plants; thirty-five in number, of which fifteen are cultivated. 5. Plants employed in the arts, in commerce, in domestic or rural economy; ninety-one in number, of which twenty-four are cultivated. 6. Pernicious and troublesome plants, to be *expelled*; seventy-three in number, of which sixteen or eighteen are particularly pernicious. 7. Plants which are chiefly

weeds upon farms, and ought to be expelled, or superseded by more useful ones; *about* one hundred and twenty species, which infest the farm as mere weeds."

In a future number, I propose to give a few extracts from the main body of the work, as a practical illustration of the correctness of the foregoing communication, excluding the scientific descriptions, and giving only the "Observations."

A FRIEND TO FARMERS.

September, 1848.

ADULTERATION OF FOOD.—No. 5.

Tea.—This useful article is stated to be frequently adulterated after its arrival into Europe, with the leaves of other plants; but the only falsification which appears to be extensively employed, at the present day, is the mixing it with a certain portion of exhausted tea leaves that have been redried and curled, or with damaged and inferior kinds of tea. The leaves which have been found in the possession of the manufacturers of spurious teas are those of the sloe, the ash, the elder, and of the white thorn. These, in some cases, are said to have been boiled, or scalded, with logwood, then rolled up and dried, and a bloom given to them by verditer, or Dutch pink.

Besides these, powdered talc, plaster of Paris, indigo, Chinese woad, prussian blue, chromate of lead, and occasionally carbonate of copper are employed for the purpose of coloring and "blooming" green teas. That most of the above-named substances have been used, is evident, from the fact that cases have frequently occurred, in which parties have been detected in adulterating with the leaves already mentioned; and it has been proved, also, by chemical analyses, that chromate of lead, copper, and prussian blue have been present, and it is well ascertained, by the late observations of Mr. Fortune, that the Chinese finish some of their green teas with finely-powdered indigo, or woad, gypsum, talc, and prussian blue. (See p. 355, vol. vi. of the *Agriculturist*, and p. 304 of the present volume.)

Mr. Warrington, in a valuable paper lately published in the *Memoirs of the London Chemical Society*, states, that, in his researches, he received samples both of green and black teas, imported into England, from China, which were known by the most experienced brokers not to contain a single tea leaf, and which were sold at public sale, in bond, from 1½d. to 2d. per pound. Again, Mr. Davis, in his work on the Chinese, says: "Young hyson, until spoiled by the large demand of the Americans, was a delicate, genuine leaf." As it could not be fairly produced in any considerable quantities, the call for it, on the part of our people, was answered by cutting up and sifting *other* green teas through sieves of a certain size. But the abuse has since become still worse of late; for the coarsest *black tea* leaves have been cut up, and then colored with a preparation resembling the hue of green teas. After speaking of the frauds with spurious and adulterated teas, which the Chinese have endeavored to practise, Mr. Davis observes: "But this was nothing in comparison with the effrontery which they displayed in carrying on an extensive

manufacture of *green teas* from damaged *black leaves*, at a village, or a suburb called Honán."

The remission of the tea duties in the United States, occasioned, in the years 1832-3, a demand for green teas, at Canton, which could not be supplied by arrivals from the provinces. The Americans, however, were obliged to sail with cargoes of green teas within the favorable season, and were as determined to have the teas, as the Chinese were determined that they should be supplied. Laboratories were established for the manufacture of factitious green teas from old or damaged black-tea leaves, which, after being dried were transferred into cast-iron pans placed over furnaces, and stirred rapidly with the hand. A small quantity of powdered tumeric having been previously introduced, gave the leaves a yellowish, or orange tinge, which were ultimately to be made green. For this purpose, some lumps of a fine blue were produced, together with some powdered gypsum and prussian blue. These were triturated finely together with a small pestle, in such proportions as reduced the dark color of the blue to a light shade, and a quantity, equal to a tea spoonful of this powder, being added to the yellowish leaves, they were stirred as before, over the fire, until the tea had taken the fine "bloom" color of hyson, with very much the same scent. One fact, however, is well ascertained and is undeniable; that is, the Chinese themselves do not consume those kinds of green teas which are prepared for exportation.

Chocolate.—This delicious article of food is also subject to vexatious adulteration, which, though not generally absolutely injurious to health, yet much depreciates the chocolate, so treated, as a nourishing substance. Sometimes, however, the falsification is dangerous, particularly when it is adulterated with the cocoa bean that has been spoilt by sea water; and hence it is as much altered in its chemical and other characters, as the bean of coffee is under the same circumstances. Besides the above-named substances, chocolate is adulterated with flour, potato starch and sugar, with coconut oil, the inferior kinds of butter, lard, mutton suet, and even tallow.

If, in breaking chocolate, it is gravelly—if it melts in the mouth without leaving a cool, refreshing taste—if, on the addition of hot water it becomes thick and pasty—and lastly, if it forms a gelatinous mass on cooling—it is adulterated with flour, or potato starch.

Again, when chocolate has a kind of cheesy taste, animal fat has been added; and when very rancid, when it has been exposed for some time to the action of the air, in a tolerably warm place, bad butter, and either vegetable oil, or even the seeds themselves from which the oils were extracted, have been made use of in the sophistication. If the chocolate be very bitter, the bean has either been burnt in the roasting, or it has been impregnated with sea water. In either case, the product is unfit for use as an article of food.

The mineral substances employed in making up chocolate, are some of the ochres, both red and yellow, together with red lead, vermilion, sulphate of lime (plaster), chalk, &c. Chocolates so adulterated, more especially with the preparations of lead, are highly injurious to health. It is only the in-

ferior kinds, however, that are thus made. In order to detect earthy matter in chocolate, a considerable quantity of the suspected article must be finely scraped and steeped in hot water for some minutes, stirring it well during the time. After about a quarter of an hour, the supernatant liquid may be poured off, and the residual matter again treated with hot water until nearly tasteless. The liquid part must then be poured off, and the remainder, or mineral portions, collected and dried.

ROUGH NOTES BY THE WAY.—No. 3.

On my way to Newcastle, in order to take the steamboat, I stopped at the farm of Hon. John M. Clayton. This farm consists of a part of one of those large worn-out estates of which I have often spoken, containing too much land, entirely run out by bad husbandry. It is only three years since he purchased, so that he has only had time to make a beginning. He has set out a large apple orchard, together with considerable other fruit, which appear to be doing well; but he has not been the most successful in planting trees for ornament and shade. About his mansion, which is new and quite spacious, there has been some mismanagement in this respect. No one ever need lose a tree by transplanting.

As to Mr. C.'s politics, it is not for me to say whether I approve or condemn; but there can be but one opinion as to his talents, and I hope they may be brought to bear upon practical agriculture in improving his own farm; and whenever the subject of establishing an agricultural college is brought before Congress, I trust he will be found first and foremost in advocating its importance. I am told he has a son, who has, also, a fine taste for agriculture, with all its modern improvements, now travelling in England, and who, doubtless, will learn, while in that country, something concerning English stock and the manner in which they "do up things" there. Although they may not be applicable, in all respects, to the United States, yet they may create new ideas, and stir up a disposition to make the most of our privileges as well as of our resources.

While on Mr. Clayton's farm, I asked the old colored woman, who appeared to be *mayora generalissima* of the establishment, to show me the hen house. This is constructed of bricks or stone, well stuccoed, inside and out, sixteen feet high to the eaves, and well ventilated, with nests for laying and sitting all round the sides. Well, Dinah, said I, what luck in raising chickens? "Ah," said she, "I've had bad luck with my hens." Why so? said I. You have lots of chickens all about you? "True," said she, "I might have had a great many more. See, how they act—two or three trying to get on one nest—when they run out and steal their nests, they do a great deal better." Here, I will suggest an improvement for the benefit of Mr. Clayton, or any others. I will suppose his house to be thirty-six feet long, twenty-four wide, with a paved or plastered floor, perfectly rat proof. Partition off a room six feet wide, for sitting, the whole length of the building. On each side of this partition, erect a table, or platform, say two feet wide. Then make twenty-four sliding nest boxes, or drawers,

three feet long, eighteen inches wide, and ten inches deep, partitioned in the middle, so as to leave two compartments in each, eighteen inches square. On a level with the tables, let there be cut through the partition an aperture the whole length of the room, ten inches high, or sufficiently large to receive the nest boxes, or drawers, so that one half of each will be in the laying room, and the other half in the apartment designed for sitting, leaving a space of six inches on each table, for the hens to alight and enter deliberately their nests without breaking their eggs. When a hen is disposed to sit, put the eggs under her, and one or two nights after, shift ends of the nest box, so that they will be in the setting room where she will remain in perfect quietude until her brood is hatched. Your readers may make whatever improvement they please, upon my suggestion. I have something similar, myself, and find it works well, saving a great deal of contention among the hens, especially from the annoyance of the roosters when they come off their nests for food.

I find an increasing sentiment prevailing throughout this region, that more barn room is necessary, and that a great deal more is lost in having hay spoil in ricks and stacks, than the interest, and decay on the cost of barns, many large ones of which are now erecting.

The crops all along the Delaware, look well; the lands generally under excellent cultivation, with good fences, mostly post and rail, and hedges, the latter of buckthorn and the Virginia white thorn. The last-named plant, I like much the best, although less thrifty in its growth. It makes a complete low fence, which no animal will be likely to pass, and even it would be impossible to be penetrated by a mad bull. All, however, with whom I conversed, are tired of division fences, which impose an enormous tax of no earthly use. The farms are mostly large, and if any one chooses to pasture his cattle, let him fence in 100 acres, more or less, and sub-divide it into smaller lots by iron-wire hurdles, or some other kind of portable fence, so as to afford fresh pasture to the animals, if necessary, every day in the week. Soiling, however, is decidedly preferable for horses, oxen, and cows; but all young cattle, as well as sheep, ought to be driven to the mountains to summer, as the land along the river is all too valuable for cultivation.

SAMUEL ALLEN.

Newcastle, Del., July 20th, 1848.

BUCKWHEAT CAKES.—The griddle on which cakes are baked should *never be touched with grease*. Firstly, because it imparts a rancid taste to the cakes. Secondly, if a cooking stove be used, it fills the kitchen, if not the whole house, with the smell of burnt grease—to say nothing of the parade, and boasting to one's neighbors, by betraying what we are to have for breakfast. Wash the griddle with hot soap suds; scour with dry sand, and when heated for use, rub it well with a spoonful of fine salt and a coarse cloth. It will then be ready to receive the cakes. After each cake is removed, the salt rubbing must be repeated. If the first does not succeed, try it again, and you will ever after follow this advice of an

OLD HOUSEKEEPER.

SMALL POX IN SHEEP.

At a late meeting of the weekly Council of the Royal Agricultural Society of England, a discussion took place on the small pox in sheep, which is at present prevailing in England and various parts of the continent. Professor Simonds being called upon, made the following statement connected with the symptoms of the malady, and the best means of preventing its extension:—

The disease had long been known in Germany, Italy, and France, and in Paris it had never been entirely extinct; but from the knowledge of its character and experience in the modes of its treatment, especially by inoculation of the lambs when six or eight months old with the true pock matter of the sheep in its mildest form, the loss generally did not amount to more than five per cent., often not one, or even one quarter per cent., while in England, where the disease had already become prevalent in certain counties, and in other localities where the disease was left unopposed in the progress of its ravages, the loss by death amounted to no less than fifty per cent. of the animals attacked by it. The disease, he described, as not epizootic, or conveyed through the atmosphere, but as infectious as well as contagious, having however a limit to the sphere of its activity.

Professor Simonds remarked, in reference to the first indications of the disease, that there were not in this, as in many others, any premonitory symptoms; but that the constitutional and local appearances developed themselves simultaneously. The small pox in the sheep was analogous to the same disease in the human subject. The poison, after having entered the system, either by contagion or infection, lay dormant for a period varying from ten to sixteen days, when an eruption made its appearance on the skin of the animal, in those parts of the body more particularly where there was the least wool, as in the inner part of the thighs and arms; without, however, being long confined to those parts, but soon extending to other parts of the body. This eruption is found on examination to consist of hard knotty bodies, much inflated, and of a florid red color; some of them separate from the rest, while others are accumulated in clusters. It was only when the eruption made its appearance that the animal gave any symptoms of ill health. On the eruption, however, taking place, the sheep separated itself from the flock, drooped the head, hung down the ears, and altogether presented a most peculiar and dejected appearance; the feet and ears being cold, while the rest of the body was feverish; the eyelids became inflamed and swollen, with discharge of tears from the eyes, and mucus from the nostrils. The animal refused its food, and the symptoms went on increasing in severity for three or four days, until the eruption changed its character and assumed a white appearance, arising from the cuticle being raised from the nodules by effusion of the fluid beneath it; at this stage of the disease the animal at once seemed slightly relieved. The white raised cuticle, however, in the course of a few days, put on a brown hue, and became converted in its substance into a scab, or crust, which ultimately fell off, leaving an ulcer more or less deep in the flesh, and occasioning those pitted marks so well known as resulting

in the human subject from a late and severe attack of small pox. The danger to the animal suffering under this disease is dependent on the amount of the eruption present, and also upon the irregularity with which it passes through its various stages; and he agreed with those who recommended a stimulating and nutritive plan of treatment.

Prof. Simonds had no confidence in vaccination (with vaccine lymph), for this disease in the sheep, nor did he believe it could be depended upon as a preventive; however it might be hereafter proved to be of use in mitigating its virulence. He had himself vaccinated sheep, and subsequently inoculated them; in the course of time, the inoculation took effect, and the small pox appeared and passed through its regular stages. He considered inoculation to be the best means of diminishing the virulent character of the disease; and that this plan might be had recourse to even when the disease had shown itself in the flock; especial care being taken to procure lymph from the mildest cases, and to introduce it with the least possible incision, which ought not to penetrate deeply through the skin, but be introduced underneath it, with not more than two slight punctures, behind the ear, as had been suggested, or inside the thigh of the animal. He stated that great care was requisite in effecting this operation, otherwise, if deep punctures were made, a deep sloughing and ulcers would invariably ensue. He recommended, as another preventive, that the unhealthy sheep should be separated from the healthy ones; and, also, that a daily examination should be made of the animals presumed to be healthy, in order that an instant removal might be made of any showing the slightest symptoms of disease.

With regard to the skins of sheep dying of small pox, he earnestly recommended their being destroyed by fire or deep burial in the ground; for it had been ascertained that the virus retained its fatal powers long after the death of the animal, and might again become the origin of fresh contagion.

PLAN OF A PIGGERY.

I FORWARD you my plan of a piggery and other necessary fixtures, which I have in contemplation, and am preparing to put up, on a tasteful and cheap scale, within the reach of every thriving citizen in our state. The cost of construction will depend much on the finish. The ground plan fig. 84, of the two buildings, which includes a yard between them, is 40 feet long and 14 feet wide, which may cost from \$50 to \$90. A good mechanic has proposed to do all the labor, after the foundation is laid, for \$40, the boards to be planed and matched. Unless the buildings are to be painted, I would recommend that the boards be put on in a rough state, and white washed with a composition of stone lime and water lime. To construct a good cellar would cost about \$30 more.

This plan might be enlarged. I have designed it for six fattening hogs, or for one breeding sow and three porkers. "Millionaires" may require something more expensive, but this is sufficiently spacious for the common citizens of Vermont. The two upright buildings, fig. 84, represent the swill

house and piggery. Both are 14 feet long, and 12 feet wide, the posts 10 feet.

The ground plan of the first building contains the arch A, for cooking, where boilers and steamers will be placed sufficiently large to accommodate the number of hogs to be fed. The feeding troughs also, T, T, is included in the same building, which is made of white-oak plank, and extends the whole length of the house, except the space occupied by the tubs, or vats, I, I, which are convenient for the cooked food, swill, &c. One of them may contain the warm food, the other in a

yards, Y, Y, to the feeding trough, T, T. A partition divides the sty, or open yard, and extends across the piggery, forming two sleeping apartments, P, P, and two yards, Y, Y; six doors and passage ways opposite, D, D, D, D, D, D. The main door in the piggery opens into the passage, X, 2½ feet wide, for the convenience of the attendant to carry in straw, &c. The open yards may be used for litter, and to manufacture manure; these occupy the space enclosed between the two upright buildings, and are 16 feet long.

The floor of each building and the yard should be flagged with stone, or brick, secured from frost. The sills of the two main buildings are to be raised upon a wall 18 inches. A cellar may be constructed under the first building for the storage of roots; if seven feet deep, will hold 600 bushels, allowing 2,420 cubic inches to the bushel. A convenient wheel and windlass is arranged in the loft of this house, for handling the hogs at the time of killing, and may be convenient for dressing other animals.

There are many piggeries in this state, constructed about 30 feet long and 20 feet wide, which contain all the cooking apparatus, the hogs, grain in the loft, and sometimes a wool room which form a complete nuisance. I am opposed to feeding swine in close buildings, where they make their litter, and cooking food under the same roof. The effluvia cannot be very pleasant for man nor beast.—*Transactions of the N. Y. State Ag. Society.*

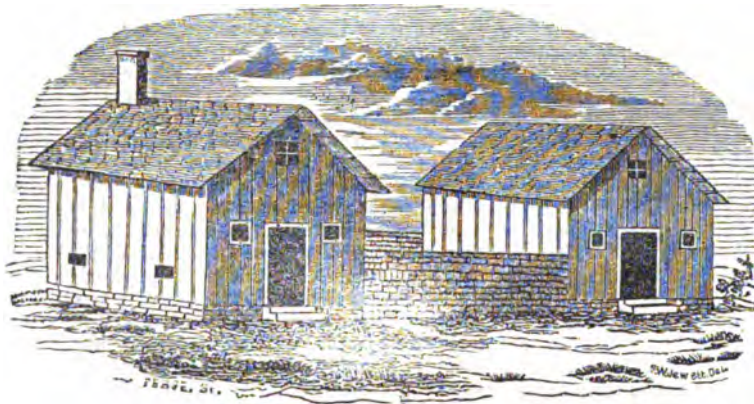
S. W. JEWETT.

Weybridge, Vt., Nov. 15th, 1847.

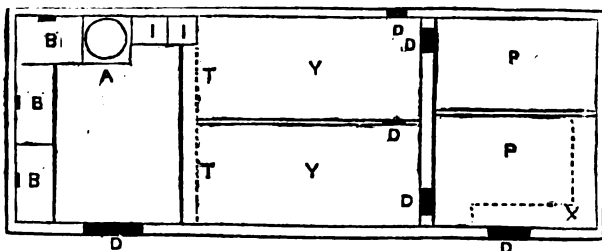
MR. AYRAULT'S TWIN STEERS.

THE twin steers, of which an account is annexed, were fattened by Hon. A. Ayrault, of Genesee, Livingston county, and were exhibited in Albany, last winter, for a few days. When on their way to New York, they were considered by those who saw them here, as the best pair of fat cattle ever shown in this city. One of the animals was pronounced by the butchers, and others, who are good judges, as the most perfect fat animal they had ever seen, and this animal when killed, fully justified, we are told, the opinion expressed, in the quality of his meat, which was very superior.

They were slaughtered in New York, by Mr. B. Lawrence, of the Centre Market. Their live weight, was 5,522 lbs.—their dressed weight—quarters 3,450—tallow 512—hides 214=4,376 lbs. It will be seen by the description annexed, that they



PLAN OF A PIGGERY.—FIG. 85.



GROUND PLAN.—FIG. 86.

process of fermentation, to be fed at any time. The dots on the yard side of the house and feeding trough, T, T, represent standards of iron, or white oak, arranged along and close to the outside of the trough, at suitable distances to allow the heads of the swine to pass between them into the feeding trough. The sill, on this side of the house, is raised and framed to the posts two feet above the common level of the other sills, and these, standards, or pins, which prevent the hogs from getting into the trough, or house, are framed into the sill above, and the feeding trough; the plank which forms the bottom of the trough may project on the outer side for that purpose, or the plank may be of such thickness as to enter the upper edge.

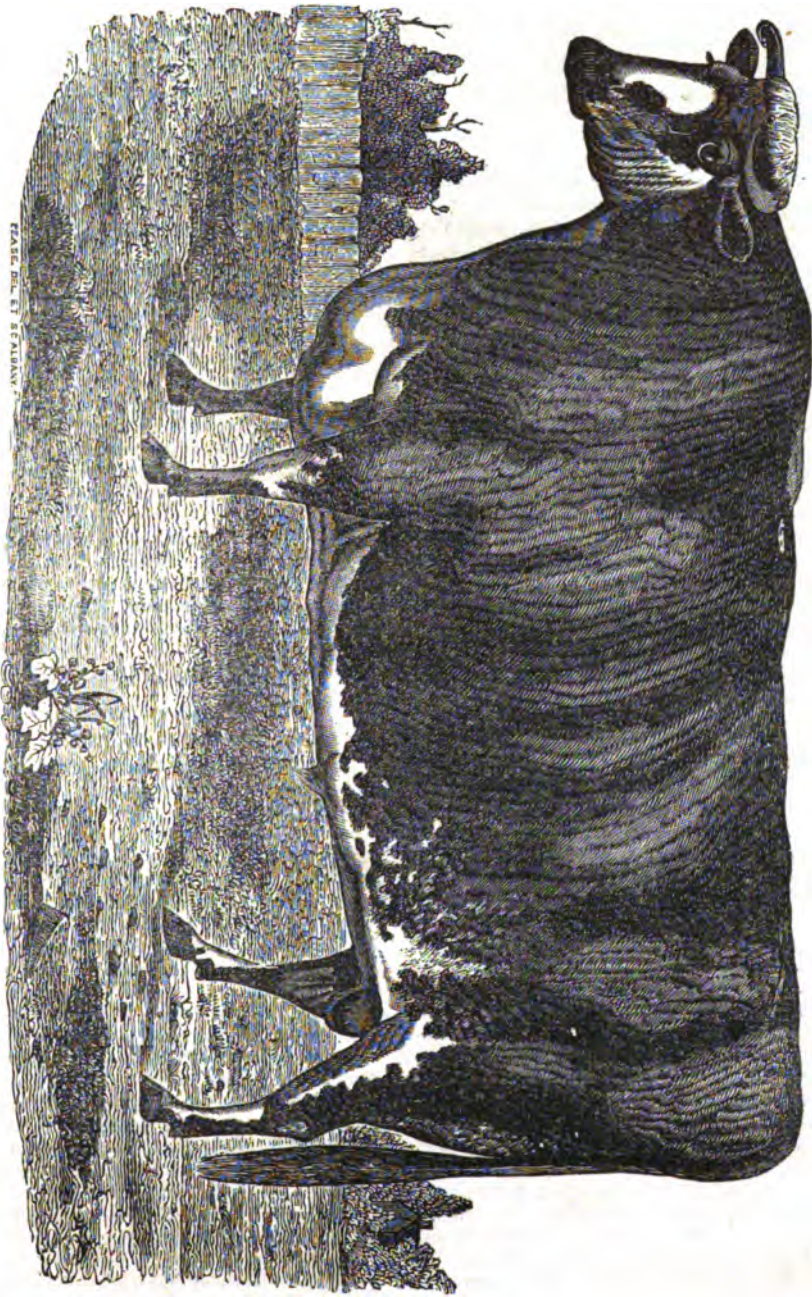
B, B, B, are bins for apples and roots, in each of which a window opens for the purpose of shoveling them in, two of which are seen in the upright part. The hogs are to lodge in the pen, and can pass from their apartments, P, P, through the

were three fourths Short-Horn—and they exhibited most favorably, the distinguished characteristics of that improved breed, in laying on flesh rapidly and on the most valuable parts, and satisfied all of their

great value for fattening purposes.—*Transactions of the N. Y. State Agricultural Society.*

At the request of the Executive Committee, I

MR. AYRAULT'S STEER, 5 YEARS OLD, $\frac{1}{2}$ SHORT-HORN.—FIG. 87.



transmit some particulars in reference to the cattle mentioned by you. The twin steers, six years old in the spring of 1847, were from the stock of

Samuel H. Fitzhugh, Esq., of Livingston county, who derived his improved stock from the herd of Thomas Weddle of Ontario county.

They were got by the bull, *Harry*, who was got by *Rover*, dam *Daisy*, by *Wades Eber*, grandam, *Laura*, by *Marshal Beresford*—great grandam, *White Rose*, by *Seaton's Favorite*, G. G. G. D. *Primrose*, by *Colling's North Star*, G. G. G. D. by R. Colling's *White Bull*.

The mother was a remarkably fine animal, both as a breeder and a milker. She was a cross of the improved Short-Horn stock of Philip Church, Esq., of Belvidere, Alleghany county, and the native stock of the country.

Judge Church was among the first who introduced the improved breed of cattle into western New York. It is difficult, for the want of sufficient data, to state the exact proportion of the cross in these cattle, but enough is known to show that it was as high as $\frac{3}{4}$ or $\frac{7}{8}$ of pure Short-Horn blood.

The steers were purchased by me, of Judge Fitzbush, at two years old. That gentleman, in a letter to me of the 3d inst. says, "The steers, while I owned them, received no other care than any other stock. They were, with other calves, taken from the cow at one week old, and received new milk for a week or two, afterwards skimmed milk, until $2\frac{1}{2}$ or 3 months old—then turned to grass, taken up in November, or the first of December, and fed with hay alone until the 10th or 15th of February, then about a pint of meal a day, with a pint of oil cake a week, until about the middle of April, then turned to pasture, and the next winter fed on hay in the field, without shelter."

They did not, at the time of my purchase, present the appearance of being cattle of uncommon excellence, but were considered as fair, average steers. They were domesticated, broke to the yoke, and worked till near five years old. They were always good workers, but were never put to any very severe labor. Their keeping, while thus at moderate work, was not more than I usually give to my working oxen, or other stock. They received hay, with a small quantity of grain from March, till they were put to grass; but the improvement made under this treatment soon evidenced that they were superior animals, and such was their promise, that, in the winter previous to their coming five years of age, they were high fed, and then in the summer afterwards, moderately fed with grain, about six to eight quarts of meal each, per day. For one year after the first of November, 1846, and until the time that I sold them, I gave them the best keeping that could be furnished, making the whole time of feeding about twenty-one months.

The last year of that time, they were kept at the barn on dry feed, averaging about 12 or 14 quarts of meal each, with some carrots, potatoes, pumpkins, &c., and to sustain their appetite in vigor, sometimes ground barley was used, with oats and corn, and sometimes clear corn meal, changing from one to the other. Great care was taken in the quality and preparation of this corn meal, indeed so far as to have some of the corn, kiln dried.

The cattle were never stabled, but usually put up to receive their food, and then exposed to the season with more or less of shed protection. To a roomy yard, with the ground to stand or lie upon,

instead of confinement upon a stable floor, I attribute the great activity and sprightliness of the cattle when at their perfection. Although remarkable for expanding in size, and taking on fat, they were never, what could be called great eaters.

I purchased the steers in the fall of 1843 for the sum of . . . \$60.00

I kept them for work $2\frac{1}{2}$ years, but as their work was not severe, and they only received the ordinary keeping of my stock, I estimate the expense of keeping over work, at . . . 65.00

I then commenced feeding them, and for three fourths of a year, fed but moderately—say, what equals in expense eight quarts of corn meal, for each, per day—being $\frac{1}{2}$ bushel corn per day, for 274 days, making 137 bushels at 50 cents per bushel, . . . 68.50

Add hay, grass, and attendance \$1 per week, . . . 39.00

For the last year, I fed them in the best manner—say, corn, oats, and barley meal about 12 quarts each, per day, and some pumpkins, potatoes and carrots, equaling in expense one bushel of corn—being 365 bushels, at 50 cents per bushel, . . . 182.50

Hay and attendance 50 cents per week, . . . 52 00

\$467.00

This, at a liberal estimate, was the cost of the cattle when sold. I sold them in November, 1847, for \$550 paid down, and a promise from the purchaser, Mr. Calkins of \$100 more, if the cattle turned out well—which promise he has since agreed to make good. ALLEN AYRAULT.

Albany, April 12th, 1848.

STATE OF AGRICULTURE IN MORRIS COUNTY, N. J.

I AM writing you a line from the heart of one of the choicest farming regions in our county. Here is really model farming, inasmuch as it is *successful* farming, if one dare judge from the well-filled barns, numberless hay and grain stacks, fat cattle, &c. &c., that meet him on every side.

A brief description of real life, and its prospects here, I hope will not be thought amiss. This Troy is a small country place, located on the turnpike leading from Newark to Dover, a distance of about 16 miles. Hay, fat cattle, and milk are not the least important items to which the farmers here turn their attention, and just now they have done haying; almost every spear of grass has been handsomely cured, stacked, or housed, during one of the most splendid seasons ever known, with scarce one drop of rain to blacken the bright straw. This hay is cut in immense quantities every year, averaging about two tons to the acre, and the land never manured, as I can learn.

Formerly, considerable cheese was manufactured by the "gude housewife," but now their attention is turned to the selling of milk, reaping one of the great advantages of having a good railroad within a few miles of the door, to drain the county of its surplus produce, and keep the market supplied with that "dirty, yellowish-looking scum."

One man here, Mr. Hiram Smith, keeps sixty cows, sending to the Morristown depot, seven

miles, daily, by seven o'clock in the morning, some 2,000 quarts of milk, including a great proportion of cream. One quart of cream is taken from about six quarts of milk. He has a splendid store milk house, erected for this purpose, about eighteen by forty-five feet, through which runs a pure stream of cold spring water.

I venture to say, this place numbers as great a proportion of wealthy farmers, as any other of the size in our county, in which enterprise develops itself in large and handsome houses and barns, the farms generally averaging about three hundred acres, correspondingly neat in appearance.

One word on their method of collecting manures. It is deemed good policy to collect, by fall, large heaps of compost, of ditch scrapings and meadow muck, which are carted to the barn yard, covered with coarse hay, and trodden upon by the cattle until spring, when it is applied to corn. In this way, the land is kept good, uniformly producing remunerating crops.

I am now availing myself of the extraordinary dry weather, and having removed from a low place, at the head of a mill pond, on my grounds, some two hundred loads of earth, that has apparently been, say twenty years in *accumulating*. I wish to inquire the most economical manner of applying it to land, whether lime or ashes mixed with it would be the most likely to be the most beneficial. It seems to me to be a species of bog earth and vegetable matter, that has never known what cropping was, except to grow black alders.

W. D.

Troy, Morris Co., N. J., Aug. 26th, 1848.

PIPES FOR UNDERDRAINING.—SALT MUCK.

In your last number, you invite communications in a plain way, from plain men, and I avail myself of the invitation, coming as I do under this denomination of persons.

You have an article—"Pipes for Underdraining"—by which I learn of the intended importation of a machine from England, for making drain pipes. I desire to say to you, that this summer, I drained 1,864 feet, and procured the pipes and flats made by Mr. A. Price, of Middletown Point, Monmouth county, New Jersey, at \$16 per 1,000 feet at his works. They are the half pipe, such as you see represented in Stephen's Book of the Farm, each pipe about one foot long, and three inches in diameter, inside, of burnt clay. If any of your friends should not be disposed to wait for the machine, this may be to them acceptable intelligence.

I have used a great deal of salt muck to good advantage. I hope to haul up 1,000 loads, this winter, into my barn yard. My first experiment was with a Siberian crab-apple tree, which I transplanted from a place where it did not appear to thrive. The salt muck had laid over one winter, mixed in alternate layers with lime. A hole, about three feet by four and two spades deep, was dug, and filled with this mixture, and the tree planted in the centre. It grew very luxuriantly, full two feet for one, compared with another apple tree (a russet), within the distance of thirty feet, and I have ever since been an advocate for salt muck. T. J.

October 10th, 1848.

THE MOST PROFITABLE BREED OF SHEEP.

WHICH is the most profitable breed of sheep, is a question often proposed—never solved. Many are the reasons given for preference of certain breeds in behalf of different localities, and many experiments have been tried to test relative merits. These have been principally tried on equality of terms, the natural habits of the animals being left out of sight, so that the results have been pretty equally varied and unsatisfactory; no sound conclusion having as yet been arrived at. It is a subject of great interest in itself, and certainly of vast importance to a country so thickly populated as our own happy land. The attention of most of our enterprising and energetic agriculturists have been turned to the increased productions of our arable fields; this is perfectly right, and no one appreciates more highly the great advances made than myself. I am also well aware of the intimate connection between the two, from the increase of animal food on these arable lands; they must go hand-in-hand to a great extent; but if it can be shown that certain animals—a particular breed of sheep, for instance—will produce a more abundant supply of food for man, or clothing for his use, then that is the very breed deserving most encouragement, despite of favored prejudices. I presume not to direct; my object is to promote inquiry. I farm in a district altogether enclosed, and our fields are for the most part of convenient size. Our sheep graze undisturbed; where they feed, there they lie down, and rest in quiet. It is not so with the open field or down farmer; his sheep travel from field to down, from down to field daily. This requires activity; he requires an animal with light, elastic tread. I say nothing of this mode of farming.

Query. What is the loss sustained in fat and muscle by this weary travel? The mountain range appears to require an agile, hardy animal; but have the little animals generally found on these summits undergone all improvement of which they are capable? The bleak and elevated parts of the High Peak of Derbyshire are grazed by sheep of fair size and proportions; and the Cotswold Hills, which are about 700 feet above "sea level," boast the largest sheep in the world. I by no means question the propriety of suiting the animal to the locality or purpose required; but I do seriously object to grazing inferior animals on any pasture, country, or place where a superior can be introduced; to this I desire to direct particular attention, as a subject of no minor importance. I hesitate to give an opinion, but as I occasionally see sheep of every variety, from the little mountain sheep to the gigantic Cotswold, fattening on our best pastures, I will say that, so far as my observation and experience go, they fatten in about the same time; indeed, with animals of the same age, the larger one generally improves the faster. He is more indisposed to exertion, resting more quietly; and in the consumption of food, the balance is not much in favor of the smaller animal; his active habits cause him to eat more, and his restless feet destroy much. I need not stay to prove that an active, lively animal will consume more food than a quiet, docile one; it is an axiom. My impression further is, that the little active one will consume and waste (by treading), as much or even more food than the

large, quiet, docile one; and I invariably find the larger animal to be the quieter one. My own prepossession is in favor of a large breed of animals, as believing that they come to—grow to—a heavier weight in the shortest time, upon proportionably the least food. With the view of exciting discussion on these points, and consequent improvement, I send you the following dimensions of sheep taken at the late York meeting. I withhold the numbers, at least for the present, as I have no wish to come into collision with individual exhibitors. The whole were fairly and carefully taken before the prizes were declared, and in utter ignorance as to whom each animal belonged. I would further say, that I had ample time to make my selection, which, with two or three exceptions, were the largest sheep in each class.

Admeasurement of sheep in class at York meeting, taken before the prizes were declared.

Breed.	Class.	Age.	Circum.		Length.		Height.	
			Months.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
Long-wools	No. 1	16	5	1	3	8½	2	6½
		16	4	8½	3	6	2	6
		16	4	9½	3	7	2	6
		16	4	8	3	7½	2	5½
		40	5	7	4	0½	2	9½
	No. 2	52	5	7½	4	1½	2	8½
		28	5	4	3	11	2	7½
Leicesters	No. 1	16½	4	4	3	6½	2	5½
		15	4	2	3	5	2	4½
		16	4	6½	3	5½	2	5
		14	4	6½	3	7½	2	6½
		16	4	4½	3	6½	2	5
	No. 2	16	4	5½	3	7	2	6
		16	4	3½	3	4½	2	4½
		27	5	2	3	9	2	5½
		30	4	11	3	9	2	5½
		40	4	11	3	7	2	6½
		55	5	1½	3	8½	2	6
		27	4	8½	3	8½	2	5½
		28	4	9	3	6½	2	3½
		28	5	1	3	9	2	6½
		28	5	0	3	6½	2	7
Southdowns	No. 1	16	3	10	3	10	2	2½
		16	3	8½	3	7½	2	2½
		16	4	1	3	7	2	3½
		16	4	0	3	9	2	3
	No. 2	55	4	5	3	11	2	3½
		29	4	0	3	9	2	3
		29	4	6	4	1	2	4
		40	4	1	3	9	2	2½

I give you my estimate of the comparative weight of the heaviest sheep in each class of same age, according to my judgment.

Breed.	Class.	Age.	Weight per quarter.		Wool.
			Months.	lbs.	lbs.
Long-wools	No. 1	16		52	14
Leicesters	" 1	16		46	11
Southdowns	" 1	16		36	8
Long-wools	" 2	40		72	15
Leicesters	" 2	40		56	11
Southdowns	" 2	40		46	8

With all deference, I beg to say, that in the

Leicester classes nearly every variety of Leicesters and long-wools was to be found; the pure Leicesters not predominating, and the long-wool classes embraced a very superior Cheviot.—*English Paper.*

THE TRUE PRINCIPLES OF FARMING.

If persons engaged in this pursuit would only use that sense which God has provided them with, and which is generally styled *common*, the business would be divested of a great deal of its mystery. Some people will say that it is much easier to find out what is wrong than to say what is right; and this is true to a certain degree; but regarding the cultivation of the land, there are certain inviolable principles which should always be kept in view; and these I will endeavor to enumerate. The first that strikes me is the clearing of the ground; it is absurd to think of trying to grow grain under trees in a wood, nor is it sufficient to take away a part of them—I mean, of course, with the idea of a perfection. For instance, suppose you have 50 trees on an acre; that is, about one to every three square rods; the soil capable of bearing 50 bushels of wheat, or 1 bushel to each tree; and suppose that you cut down 49 of them, you will only be able to grow 49 bushels, instead of 50—the annual waste or cost of that tree being the value of one bushel of wheat, or whatever crop might have been on the 3 rods of ground which that tree monopolized. Therefore, if it is necessary to clear the land before you can grow grain, it is reasonable and self-evident that it should be entirely cleared, every fractional part you leave doing injury in its degree.

The next point to notice is the dryness or wetness of the soil; see if the stagnant water is sufficiently near the surface to do injury to the crops, even by capillary attraction, which, science tells us, will raise water 4 feet—and practice has shown that it must not be nearer; therefore, if the stagnant water be nearer than 4 feet, drain it to that depth. It is absurd to attempt to cultivate land against so powerful an enemy as water. Thirdly, we consider "the pulverization of the soil." Ought it to be pulverized at all? To this question I think our common sense will give an answer in the affirmative, so that the plant may more easily expand its roots to seek for nourishment in the soil, which soil and which pulverization should extend as far as the roots of the plant; but is it common sense to think that 5 or 6 inches only is the distance that the roots of plants extend. I will not take advantage of a few facts that have been noticed of the immense depths that roots descend, but merely appeal to common sense and ask whether it is not reasonable to suppose that the roots beneath extend as far as the plants above the soil, and if so, ought not the soil to be pulverized to that extent, viz. about 4 feet?

The first expense of this, I am aware, renders it almost impracticable; but this I cannot help. I cannot alter the true principles of nature. I must assert with common sense that the deeper you pulverize, the more you move in the right direction.—*W. G. Grossmith, in Gard. Chronicle.*

MEXICAN AND TEXAS SHEEP.

In your July number of the *Agriculturist*, I observe you wished to know something more in relation to the Mexican sheep, what kind they are, &c., in answer to which, I can say that they are a mongrel breed, and generally very coarse-wooled, and but little at that, being quite small and ugly shaped. The old Mexicans say, that many years ago, there were a great many fine-blooded sheep brought into that country from Spain, but for some years past there has been no pains taken to improve them. There seems to be, at this time, a great difference in the quality of their fleeces, some of them being nearly all coarse, while others have only half of their fleeces coarse, and some of them are as fine as the common American sheep. But by crossing them with fine-blooded sheep, in three or four years, we obtain a very hardy and good-wooled race.

You wish to know, if my ewes had two lambs a year. They commonly have two lambs a year, and occasionally two at a time. I have had but one instance of an extraordinary increase of sheep, and that took place about the second year of my raising them. I had one ewe that gave birth to two lambs about the 20th of November. The May following, she had another, and strange to say, the next November she had two more lambs, making five in all, within the term of twelve months, and she had the good luck to raise them all!

SHUBAEL MARSH.

Independence, Texas, Sept. 1st, 1848.

SHADE TREES FOR CITIES AND VILLAGES.—

These are not only ornamental and convenient, but highly useful. So long as shade trees are considered only as a luxury in towns or cities, and contribute solely to the improvement of the taste and comfort of pedestrians, we despair of their general introduction. But since the utility they have proved to be, in stopping the recent tremendous conflagrations in Albany and Brooklyn, we trust they will commend themselves to the acceptance of owners of real estate. But for their presence in both places, the fire would have crossed streets and extended its ravages far beyond the present ruins. When the insurance companies will take risks at 25 per cent. less premium where the buildings are protected by a dense mass of foliage in front, then we may hope to see beautiful shade trees lining a majority of the streets of the cities of the United States.

At the north, October and November are the proper time for planting out trees, when the weather is open and mild; but at the south, December is the proper time, whether the weather be mild or not.

EFFECTS OF DOMESTICATION ON BIRDS.—Professor Low, in speaking of the effect of domestication on birds, says: "They lose the power of flight by the increased size of their abdomen, and the diminished power of their pectoral muscles; and other parts of their body are altered to suit this conformation. All their habits change; they lose the caution and sense of danger, which, in their native state, they possessed. The male no longer retires with a single female to breed, but becomes polygamous, and his progeny lose the power and the will to regain the freedom of their race."

THE ARRACACHA vs. THE POTATO.

THE adaptation of the potato for widely-different climates, when in its former vigorous state, was a very remarkable fact. It has been cultivated from the equatorial table lands to the verge of the polar regions; it produced thirty fold, in 1846, at the manse of Loevaars, in the northern district of Iceland. It is scarcely less astonishing that whilst the arracacha grows side by side with the potato in South America, and there rivals, or even outrivals it as regards amount of alimentary produce, yet its cultivation has hitherto proved almost a complete failure in Europe as well as in Algiers. Experience, and a better knowledge of its habits, may, however, greatly tend to obviate the difficulty.

We can command temperature, regulate both it and moisture, and produce various soils; but we cannot condition the plants as on their native table lands in regard to the density of the air. Contrasted with their climate, comparatively low mountain districts are too cold; and near the level of the sea the pressure of the atmosphere is nearly one third more than on the elevated situations where the arracacha naturally grows; for instance, at Bogota, at 9,000 feet elevation, the atmospheric pressure will be upwards of 4 lbs. less on the square inch than it would be anywhere near the level of the sea; and this being the case, evaporation from the surface of the leaves will be proportionably facilitated; for, according to Professor Daniell, evaporation is inversely proportionate, *ceteris paribus*, to the elasticity of the atmosphere. Hence it may be computed that a plant evaporating 30 grains in a given time in the Andes of New Granada, would evaporate little more than 20 grains in the climate of London. The arracacha may, therefore, be expected to thrive best in an airy situation, provided it is not too cold.

DESTRUCTION OF SUGAR CANE BY RATS.

OUR cane fields in this country are so infested with rats, that a very large portion of our crops are annually destroyed by their ravages, notwithstanding all we can do by means of traps, poisons, dogs, &c., and we are obliged to subject ourselves to a considerable expense, by paying our watchmen, by way of premium, a penny per head for every animal they bring us, amounting to several thousand pence per annum, on every estate. They are too cunning to take arsenic and other mineral poisons we set, and we are afraid to use scents to induce them, for fear of drawing them from the distant cocoa walks (where they also do much damage), and the surrounding wood and brush lands where they congregate, to our cane fields.

In the third volume of the *Agriculturist*, page 284, I observe a recipe from Dr. Ure, of dissolved phosphorus, but he does not say the quantity of this fatty compound that should be mixed with (say) a pound of dough, made with half sugar and one half flour. If this remedy is used in the United States, you or some of your correspondents may be kind enough to make it known through your columns, and oblige

A WEST-INDIA SUBSCRIBER.

Granada, Sept. 9th, 1848.

INCREASE OF PIG POPULATION.

The following table will show the rapid increase of the pig. Supposing the first litter to be when it is 12 months old, and that it has a litter every six months; and that it has an average of six pigs every litter. The sows to be kept in a breeding state till 3 years old, and then fattened off. Average 4 cwt. when killed, and all the hogs to be fattened off by the time they are 12 months old, and average 2 cwt. when killed.

Date of Increase and Sale.	Breeding Sows.	Inc. of Stock.		Stock Sold.		Weight of Fat Bacon in cwt.
		For Brd'g.	For Fat'g.	1 yr. old Hogs 2cwt. ea.	3 yr. old Sows 4 cwt. ea.	
End of 1801	1	3	3			
1801	1	3	3			
	4	19	12	3	..	
1802	7	21	21	3		6
Old sows deducted	..	..	..	..	1	10
	6					
	18	54	54	12	..	24
1803	29	117	117	21		42
Old sows deducted	..	..	..	..	3	120
	36					
1804	90	270	270	54		946
Old sows deducted	..	..	..	..	3	
	87					
	204	612	612	117		568
Old sows deducted	12	..	..	..	12	
	192					
1805	492	1,386	1,386	270		1,308
Old sows deducted	21	..	..	..	21	
	441					
	1,063	3,159	3,159	612		2,968
Old sows deducted	54	..	..	..	54	
	999					
1806	2,395	7,155	7,155	1,386		6,786
Old sows deducted	117	..	..	..	117	
	2,368					
	5,247	16,281	16,281	3,159		15,308
Old sows deducted	270	..	..	..	270	
	5,157					
1807	12,312	36,936	36,936	7,155		
		66,009	66,009	12,792	489	27,508

At the end of 1807, then there would be of breeding pigs—

612	2½ years old.
1,386	2 years old.
3,159	1½ year old.
7,155	1 year old.
16,281	½ year old.
36,936	sucking pigs.
65,509	
53,217	

118,746 in all, besides the sale of 27,508 cwts. of bacon; and beside—16,281 hogs, ½ year old, and 36,236 sucking hogs.—*Agricultural Gazette.*

RAG WEED.—It has been stated, we know not on what authority, that land, on which rag weed grows, is not suitable for sowing wheat.

THE FLORIDA EVERGLADES.

The most stupendous public improvement of modern times, is that proposed with reference to the peninsula of South Florida, called the "Everglades."

This region, including two large swamps, one called the "Atsenahoofta," on the western side and the other called the Halpabeoka, on the north-eastern side, and including the large lake Okechobe, covers an area of seven millions of acres. It is now utterly worthless, four millions and a half of that area being usually submerged from two to seven feet. The Pahhayokee, or "grass water," as the Indians call the everglades, comprise between one and one and a half millions of acres of the submerged lands.

The Everglades is a basin of lime rock, and the bottom of it is said to be at least some twelve or fifteen feet above the level of the sea; and the rim of the basin varying in width from half a mile to five miles, lies between the waters of the ocean on one side, and the Gulf of Mexico on the other. Deep tide rivers run from the ocean and gulf up to the margin or foot of this rim. Within the basin are thousands of islands of rich land. The glades are filled with a tall grass from six to ten feet high, the annual decay of which has occasioned a deposit in the water of from two to six feet thick. It is proposed to cut canals, or drains, through the soft rock of the rim into the rivers around it, in which, now, when the waters of the glades arrive at a certain height, they flow through fissures, or depressions, or confined subterranean outlets. This will, it is said, reclaim for cultivation most of the subaqueous soil, and the two large swamps mentioned, which are overflowed from the glades. The correct quantity of land estimated as reclaimable is one million of acres. The cost is estimated at from \$250,000 to \$500,000. Besides this, it is proposed as a part of the same improvement, to drain five or six feet of Great Lake Okeechobee, nearly 40 miles square, by two canals, each 12 miles long, one into the Caloosa Hatchee, a river flowing into the gulf, and the other into the Locha Hatchee flowing into the Atlantic. In the largest estimate of expenses above given, the cost of these two canals is included. This, it is supposed, will drain some hundred thousand acres of the best bottom sugar land in the south, now valueless, lying on the Kisseme River, which annually overflows, owing to the rise in the Okeechobee, into which it empties.

Mr. Westcott, of Florida, introduced at the late session of Congress, a bill to grant all this region to his state, upon condition that it would drain them. We have before us Document No. 242, of the Senate, containing interesting information on this subject. The Commissioner of the General Land Office, the Secretary of the Treasury, and the Committee on Public Lands of the Senate, have all decidedly reported in favor of the measure; and a very able official report by a gentleman of high character for scientific attainments, who made an examination of the glades, it seems to us demonstrates the feasibility of the project.

The land reclaimed is below latitude 27½°, where there is no frost, and if the project succeeds,

a country larger than the State of Connecticut, can be in five years in cultivation in sugar cane, oranges, limes, lemons, bananas, and other tropical productions that cannot be raised in any other part of "the present United States," to quote the significant language of the gallant Harney.

MILKING COWS.

THIS is a subject of too much importance to be passed over; and I fear that I must add that it is a subject far too much neglected. The milking of cows resolves itself naturally into two heads, viz., how to milk, and when to milk.

How to Milk.—It is astonishing what difference there is in good and bad milking. 1. If every drop of milk in the cow's udder be not carefully removed at each milking, the secretion will gradually diminish in proportion to the quantity each day left behind. This fact is well established, and is to be well accounted for on philosophic principles, as well as borne out in practice. Nature creates nothing in vain, and the secretion of milk in the cow only suffices to supply that daily lost—the milk left behind in the udder is re-absorbed into the system, and consequently the next milking will be so much the less in quantity. But another reason why every drop of milk should be taken away, is to be found in the well-known fact that the last milk is doubly as good as the first milk—hence, if not removed, there is not merely equal, but double loss. 2. Milking should be conducted with skill and tenderness—all chucking or plucking at the teats should be avoided. A gentle and expert milker will not only clear the udder with greater ease than a rough and inexperienced person, but will do so with far more comfort to the cow, which will stand pleased and quiet, placidly chewing the cud, and testifying by her manner and attitude that she experiences pleasure rather than annoyance from the operation. Cows will not yield their milk to a person they dislike or dread. I have taken some trouble to acquire the art of milking, in order that I might be able to describe it. You take the teat in your palm, enclosing it gradually in your fingers, tighter below than above; but not absolutely tight anywhere—a portion of the upper part of the hand—the thumb is uppermost—embraces a portion of the udder, and the whole hand is drawn gently downwards, towards the extremity of the teat, between the thumb and the forefinger; very little practice enables the milker to do this with ease, rapidity, and tenderness. I need not say let the hands be carefully washed before each milking; but I dare say it is seldom thought necessary to wash the cow's teats. This, nevertheless, should be done, and it will then be found that the milk will flow more freely with any teats than if you wet them with the milk; at least, I find it so, and think myself an expert milker.

We now require to consider *when the cows are to be milked*—a question again resolving itself into two minor ones, viz., at what hours, and how often? The ordinary practice is, to milk cows twice daily—at about 5 o'clock in the morning, or, in winter, as soon after daylight as possible, and again at the same hour in the afternoon, thus leaving 12 hours' interval between each milking. Some recommend milking three times daily during the summer months,

stating as their reason that cows are then after calving, and flush of milk, and that the three milkings are calculated to increase the quantity of the secretion. Some even recommend four milkings during that season. There can be no question but that, when fed in proportion, such a constant demand would necessarily increase the quantity of milk secreted; but then it is likely that the same causes might produce such a depression in the secretory system—naturally consequent upon unusual excitement—as would cause a decrease of milk in autumn and winter, in about equal ratio.—*Agr. Agriculturist.*

CORN SILKS.

EVERY farmer knows that corn throws out of the upper end of the ear a bundle of fine threads, called silk. The housewife, who gathers green corn to boil, knows more than this. She knows that about two thirds of the lower end of the ear silks out first—a few days afterwards, about two thirds of the remainder of the ear silks out; and if everything is favorable, the rest of the ear sends out silk, and, at harvest time, the whole ear is covered with corn; but if the third silk does not come out, then the upper end of the ear will be a naked cob.

If grasshoppers eat off the silk as fast as it comes out, as they did in 1831, then the entire ear will be a naked cob. If the farmer plants only that part of the ear that silks out first, will not his corn ripen more all at one time, and also a few days earlier, and thereby save a third part of his crop from destruction by early frosts, if they should happen to come?—*Exchange paper.*

IS IT BENEFICIAL TO HAVE THE GROUND SHADED WHERE PEAR TREES GROW?—For the past few years, the ground on which stand the pear trees of one of our friends, has been under cultivation with small vegetables, or in grass kept short. The fruit from the trees, during this time, has been quite indifferent. The past spring the land was plowed, and the fore part of June sowed with oats, which had a rank, thick growth, and were not cut till the last of August—thus shading the ground very well all summer. The pears ripened mostly in August and September, and were more abundant, freer from defects, larger and finer than ever before known. Now, was it the shade of the oats, the cultivation of the land, or a better fruit season, that caused this beneficial change?

HOW TO KEEP A HORSE FROM STRAYING.—The Icelanders have a most curious custom, and a most effectual one, of preventing horses from straying, which is peculiar to that country. Two gentlemen, for instance, are riding together without attendants, and wishing to alight for the purpose of visiting some objects at a distance from the road, they tie the head of one horse to the tail of the other, and the head of this to the tail of the former. In this state, it is utterly impossible that they can move on either backwards or forwards, one pulling one way, and the other another; and therefore, if disposed to move at all, it will be only in a circle, and even then there must be an agreement to turn their heads the same way.

Ladies' Department.

A DAY TO MYSELF.

OLD LADIES' DIARY.—The stars were still glittering in the clear sky, when I was called to breakfast by my good Betsey, and the wagon was at the door all in readiness to take us to farmer Jones' "Harvest Home." The merry group soon despatched their meal, and left me in quiet possession of the house, with the prospect of a lonely day; but I was agreeably disappointed, for my dear old friend M^{rs}, kindly came to bear me company. It has been long since we have enjoyed a day of such uninterrupted communion, and we lived over many hours of innocent pleasure, that had gladdened our hearts when life was new, and hope pointed to a bright future. But this day of pleasure, like all the rest, has passed away. Let me now recall it to memory, and see if it has not been one of profit as well as of pleasure. I think it has. To say nothing of the good that we may derive from social intercourse, when the affections are cultivated, I find myself the gainer in many ways from this day's gossip with my old friend.

As I expected to be alone, I had made but slender preparations for dinner, and so set my wits to work to find the best that could be made with the least trouble, and scanty fare. My mind ran over all the provisions in the house—ham, tongue, salt beef, &c.; but all required too much cooking and preparation for our fancy. I say our, for M. was in my councils, and intended joining me in my homely duties. I thought of many good things that could be quickly done in the frying pan; but M. has a horror of fries, being in her mind synonymous with headache, indigestion, and low spirits, and all the train of evils that attend improper cooking to those who do not work in the open fields. Time was precious with us, and we could not afford to lose an hour in idle ceremony; so we agreed that we could be as agreeable to each other in the kitchen, as in the parlor. The pantry afforded nothing but a piece of cold mutton, and half a boiled fowl, and both Peter and M.'s driver were to be fed. Let us have soup and apple dumplings, said M., then, with other light dishes, there will be plenty for all. I knew she could make soup out of anything; so I assigned that portion of our task to her, while I went in search of the other light dishes she talked of. There were no vegetables gathered, except potatoes, but I had a box of macaroni in the closet, that most valuable viand, which no country house keeper should ever be without, if she can possibly procure it, so acceptable at all times, and particularly valuable for an emergency like the present. Soup and cold fowl, with macaroni and potatoes, was an enviable dinner for hungry people, with apple dumplings in perspective. I watched with some interest the making of the soup; but my friend knew well what she was about. The mutton was hashed and put into two quarts of water; then was added two onions, four potatoes, two carrots, and a small leaf of cabbage, all cut fine; half a tea cupful of rice, and a table spoonful of salt. When all had boiled half an hour, half a tea cupful of tomato catsup was added, with two ounces of butter, rolled in two table spoonfuls of flour, and suffered to boil

a quarter of an hour longer, when the soup was ready for the table. I must remember this receipt, for it is a good one.

We had much discussion over our receipts for cooking macaroni, making apple dumplings, and boiling potatoes. On the first two we disagreed; but upon potato boiling, there was but one opinion—that much-abused vegetable, the one most easy to cook, was but little understood. Potatoes should never be soaked in water either before, nor after boiling; they should be washed only a few minutes before putting them into the pot, but thrown into boiling water, with a little salt, and placed over a quick fire. Twenty minutes is quite long enough to allow for small potatoes, but large ones require half an hour. As soon as a fork will pass through them with ease, the water must be drained off, and the potatoes dished for the table.

Our receipts for dressing macaroni were compared—mine, the true Italian mode, was pronounced too patrician for us, to-day, it being as follows:—One quarter of a pound of macaroni, boiled in water, in which there must be a little salt. When the macaroni is done (twenty or thirty minutes is sufficient), the water must be drained off, and the sauce pan kept covered; roll two table spoonfuls of butter in four of flour; boil a pint of milk and half a pint of cream, to which add the butter and flour; boil it until it becomes thick. The sauce must be stirred all the time it is boiling—grate a quarter of a pound of cheese; butter the pan in which it is to be baked; put in first a layer of macaroni then one of cheese, with some sauce, and so on, until the dish is full. The last layer is to be cheese, with which macaroni is to be covered; ten minutes will bake it in a quick oven. My friend's mode, however, which was the simple plebeian style, was decided on, and was this: The macaroni, with a little salt, must be boiled half an hour, in water enough to cover it; the sauce is made of a gill of boiled milk, into which is stirred two ounces of butter, rolled in a table spoonful of flour, pepper, salt, half a tea spoonful of mustard, and if agreeable, a little grated cheese. When the macaroni is done, and the water drained off, stir into the boiling sauce two well-beaten eggs, and immediately pour the mixture over the macaroni, and it will then be ready for the table. Nothing could suit us better—only half an hour to cook, and such a nice dish, when done, and should there be any left, too, it can be dressed my way to-morrow.

The apples being prepared, my friend's better knowledge came to my aid. Her receipt is more wholesome, tender, and economical of butter and time—nothing but pouring boiling water into a pan of flour, into which a little salt has been thrown, and stirring it quickly until a paste is made; the hands must be well dusted with flour, and enough of the paste kneaded at a time, to cover one apple. Each dumpling must be tied in a separate cloth, and put into boiling water. If the crust be thin, three quarters of an hour is sufficient to boil them. There, then, was a comfortable dinner prepared and cooked in an hour and a half, without bustle, and with little trouble.

We had earned our dinner, and enjoyed it accordingly. Accustomed to wait on ourselves, we were not long in washing up, and reducing all to

order again. M.'s knitting bag and my work basket were produced, over which we kept up a rambling and discursive talk, apparently without connexion, but all tending to the same end—thrift, that main spring of a farm. We exchanged patterns, fitted collars, and arranged a new quilt, as I have decided not to have my old mouslin de laine dresses died, but make them into a nice comfortable for the best bed. They are light and warm and much better for that purpose than cotton covers. I gave M. an early cup of tea, and she has returned to her happy home. I feel well satisfied with my day of pleasure; let me now see if my young people, whom I hear driving in the gate, will have as much reason to be pleased with theirs.

My experience of to-day has convinced me never to be without macaroni, rice, and tomato catchup, in my store room, and if I can make up my mind to be so extravagant, I will get a box of vermicelli for beef soup; but it must be kept for company—nicely-made noodles will do for common use.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 7.

In my last letter, I gave you a brief description of the formation of soils. We will next consider their ingredients, or constituents. The earth, like the air, is composed of certain elements, some mechanically, and some chemically combined, but unlike the atmosphere, these elements exist in widely different proportions, in different localities, and some which are found abundant in one section are entirely absent in another. It is this want of uniformity in the distribution of elementary substances, that occasions the many varieties of soil, you have observed each diversity being distinguished by different kinds and proportions of elementary constituents.

As the fertility of a soil depends on its containing a sufficiency of the proper ingredients for promoting vegetable growth, and in suitable proportions, it becomes important to know what these ingredients are, and how they may be discovered. By the *analysis* of any plant (which means the separation of its elementary constituents), we may ascertain what kind of food it requires, or in other words, what elements must exist in the soil where it grows. Its carbon, oxygen, hydrogen, and nitrogen may be furnished by the air, but we will find it to contain other elements, which are not found in the atmosphere, and which must consequently be obtained from the soil. We may find it to contain a portion of phosphorus, another of potassium, and another of sodium, substances which it could obtain from no other source than the soil. If, then, we know what elements are necessary to form the plant we wish to cultivate, we may, by analyzing our soil, know whether it contains those elements, and if it does, we may attempt the cultivation of that plant with reasonable hope of success, provided other things, as climate, location, &c., are favorable. If it does not contain them, or if any one of them is deficient, it would be a useless and hopeless undertaking to attempt its culture. In this case, it would be for our advantage, either to substitute some other vegetable, which requires no

ingredients save those which our soil is capable of supplying, or to furnish our soil with a supply of those ingredients in which it is deficient. Here then you perceive is one of the practical advantages of chemical knowledge to the agriculturist. In the one case, it enables us to adapt our crops to our soil, in the other, our soil to our crops. Thus science leads us, at once, to a knowledge of those facts which would otherwise only be discovered by a long and expensive course of experiment.

Chemists have devoted much time and labor to the analyses and examination of earths, plants, minerals, and all other substances found in nature. Their investigations have led to the discovery of fifty-six simple substances, and we have good reasons for believing that few, if any other elements, exist in nature, all the various forms which matter assumes being produced by the various combinations of some of these elementary bodies. If you will turn to page 99 of the present volume of the *Agriculturist*, you will find the names of the most distinguished members of this family, though you need not be apprehensive that I am going to weary your patience with a description of each particular individual belonging to it.

Some of these bodies are of such rare occurrence in nature, and of so little apparent consequence in either nature or the arts, as not to merit the attention of any save professional chemists, and in fact, the agricultural chemist is little interested in any save those which enter into the composition of vegetables. This class includes but sixteen, and four of them have already been described, viz: carbon, oxygen, hydrogen, and nitrogen. These belong more properly to the air, though they also exist in the soil. The remaining twelve are the following:—Sulphur, phosphorus, chlorine, iodine, bromine, potassium, sodium, calcium, magnesium, iron, manganese, and silicon. With two of these, viz: iron and sulphur, you are sufficiently familiar; a description of the remaining ten will be given in my next letter.

J. M'KINSTRY.

Greenport, Columbia Co., N. Y.,
Oct. 1st, 1848.

WHAT IS CAPILLARY ATTRACTION?—It is that by which water is induced to rise within a tube (inserted in it) to a height dependent on the fineness of the bore. It is that by which, similarly, water rises in a lump of sugar, through the tubular passage, or pores existing in its substance. And it is that by which, in like manner, water will rise through the subsoil and soil of land which is wet below. Its form depends on the smallness of the tube through which it induces the water to rise. It is thus greatest in a soil whose particles are fine—in a clay soil in fact. And it is dependent solely on this fact—not on any other, except in so far as it may affect the mechanical texture of the soil. The soil is best when it exists in medium intensity—when the land is in fact neither too stiff nor too free.

A SIGN.—When you see a female rise early, get breakfast, and do up her mother's work in season, and then sit down to sew or knit, depend upon it, she will make a good wife.

MY RABBITS.

In looking over our "Farm Every-Day-Book" this evening, according to my usual custom, I find the following entry, made just one year ago: "Edward discovered a nest of seven young rabbits in the pasture lot, F." He was engaged in cutting down some bushes, when he noticed a small layer of dry twigs, over which his scythe had just passed, to be violently agitated. At first, he supposed that it concealed a litter of field mice; but a raw Hibernian curiosity induced him to investigate further before signing their death warrant. His patience was rewarded by the appearance of the seven little rabbits, with shining black eyes, long, delicate ears, and fat, sleek bodies, huddled together—thanks to their bed quilt—unconscious of harm. He replaced everything as he found it, and then continued his work. I did not hear of the discovery until dinner time, when, as a matter of course, I started off at full speed to prosecute the examination.

That night, I dreamed of rabbits, and my eager foot-taps bruised the chaste dew drops, on the pasture lot, early the following morning, and I became convinced of the pleasure and profit of rabbit breeding. In various imaginary profit and loss accounts, the balance was ever largely in my favor. But, like the unfortunate milk maid of fable, I was counting my chickens before they were hatched.

As I had made up my mind to embark in the business, my first care was to provide suitable accommodations for the foundlings, they being my "stock in trade." Two large soap boxes converted into one, with slats in front, inclined floor, and projecting roof, made certainly a very good, if not a handsome hutch. It was hung up on the shady side of a shed, secure from the attacks of vagrant dogs or cats.

For two long weeks, my labor remained unappreciated, as I wished to capture not only the little fellows but the old doe herself. In this, however, I was disappointed. She was ever from home, when any person approached the nest, was too cunning to be caught in a box trap, and above being intoxicated by parsley steeped in pure Cognac. So, at last, I was willing to take the young ones alone, lest I should lose not only the doe but them also.

In a short time after removal to their new quarters, their limbs were strengthened by exposure to the air, and they gave vent to their spirits by sundry gambols around their cage, very interesting to all concerned. Of course, they were unacquainted with the necessary arts of eating and drinking. To prevent starvation, I gave each one, through a quill, every two hours, a little warm milk directly from the cow; but, before the end of a week, they would drink from a shallow saucer, and nibble upon tender cabbage leaves.

By the middle of October, my pets (with the exception of one that died), had grown to be large, and looked very healthy, much to the astonishment of Uncle Nezer, a neighbor who had predicted my failure. About the time when the hutch was placed under the shed for winter quarters, a fat brace was put into the pot for dinner. And soon afterwards, one of the two remaining bucks killed the other, through jealousy, as was supposed. Two bucks in the same cage are like two mothers-

in-law in the same house—the walls are not far enough apart. An intelligent lad, who called upon us one day on business, fancied my large buck, and, on a promise to bring another in exchange, carried him off, which was the last I have seen of either. Now only two remained, one of which died during the winter (perhaps of a broken heart), and was thrown into the dung heap.

The seventh and last was alive and well the beginning of spring. But the vegetable bins and grain boxes suffered a little in consequence. She was too anxious to regain her liberty, however, to suit me altogether; her devotion to the goddess of the cap was manifested by gnawing away sundry parts of her cage some dozen times, which caused me some little trouble to replace. Disgusted with rabbit keeping, I was thinking about opening the cage door, when her death decided the question. One afternoon in March, she slipped her leg between the slats, and, before she could be extricated, it was broken. Poor little thing—*Vale!*

At the expiration of six months, my seven rabbits were all gone. The hutch was empty! Quite an unfortunate conclusion to my experiment. What was the cause, I cannot say; it was net want of care nor food. I leave the question with the kind reader, who may rest assured, that if I undertake the keeping of rabbits again, he shall know it.

CALVIN COULTER, JR.

Hawthorn Hedges, N. J., Aug. 20th, 1848.

CHANCE OR LUCK.

ONE dark stormy morning last winter, a thoughtful little boy sat knitting by the fire, while his mother was preparing the fragrant buckwheat cakes for breakfast. For a long time he was perfectly quiet, as if something puzzled him. At last, he looked up and said: "Mother, what do you always put an odd number of stitches on my stockings for?" "Because it leaves one for the seam stitch, and makes the rest even on the needle," she replied.

The boy laughed, quite satisfied with the explanation, if not of the necessity of the thing, and went on with his work. Presently, he looked up again, and said: "Mother, why do you always put thirteen eggs under the setting hen—does she like it best?" "I do not know if she cares about it," said she, "but I do it for good luck—odd numbers are the most lucky." The thoughtful boy was not satisfied; and, after a pause, he again said: "Why, mother, Squire Miller told George it was to make more sure of having twelve chickens, for we might always count upon having one bad egg in every dozen, and he liked to have an even dozen of chickens or ducks, in every brood." Is not the Squire right? Customs are often the results of necessity or experience, and in this case, he has, I doubt not, given the origin of a practice, almost universal among our farmers from a vague idea of good or ill luck attending it; but which, in reality, perpetuating a silly superstition.

"The fool saith in his heart, there is no God"—and so does every one who believes in *chance* or *luck*, whether he acknowledges it even to himself or not.

E. S.

Eutawah, September, 1848.

FOREIGN AGRICULTURAL NEWS.

Our latest advices from Europe are to the 14th of October.

MARKETS.—*Ashes*, sales trifling. *Cotton*, a decline of $\frac{1}{4}$ d. per lb. *Wheat* and *Corn*, firm, but without change. *Beef*, an advance of 2s. to 3s. per tierce. *Pork* and *Lard*, as per our last. In other products we notice no change demanding attention.

Money was abundant, and some investments going on in American stocks.

The Grain Crops throughout Great Britain and Ireland prove to be under an average; but on the continent they are large, and the supplies from that quarter will be abundant. *Potatoes* are extensively affected by the disease and large quantities have rotted.

Guano and Tobacco from Peru.—A vessel lately arrived in London, from Callao, having on board 1,300 tons of guano, the largest importation of that article, which has taken place for a considerable time past. The same vessel brought 430 bales of tobacco, which would appear to be a rather unusual and remarkable article from the southern part of this continent.

Blue Vitriol, a Preventive of Smut in Wheat.—A farmer, in South Berks, states that, by the use of blue vitriol (sulphate of copper), he has succeeded for four seasons in warding off the smut in his wheat. The plan adopted appears to be simple, cheap, and efficient.

Agricultural Schools in France.—At a recent session of the National Assembly of France, the principal part of the day was devoted to the bill relative to agricultural schools. It was resolved that one of these institutions should be founded and maintained in each department at the public expense, and further, that the country should be divided into agricultural districts, not exceeding twenty, in each of which a government school is to be established.

Vegetarian Society.—There is a society in existence, in England, under this title, the members of which abstain from eating meat and drinking intoxicating beverages. The annual meeting was celebrated a short time since, by a public dinner at Manchester, to which 232 persons sat down; many of whom had been abstainers from animal food, for periods varying from 20 to 40 years. The following is a list of courses served up:—

First Course.—Large savory omelet, rice fritters, beet root, onion and sage fritters, savory pie, mushroom pie, bread and parsley fritters, force meat fritters, large macaroni omelet—water the only beverage.

Second Course.—Plum pudding, moulded rice, almonds and raisins, cheese cakes, figs, custards, grapes, flummery, sponge cakes, gooseberries, creams, nuts, red and white currants, moulded sage, fruit tarts—water the sole beverage.

Russian Beef in England.—A vessel lately arrived at London from Archangel with 797 tierces of beef, 15 barrels of ox tongues, and other productions of the Russian empire.

Draining by Steam.—The stone of the building for a new steam engine of 50 horse power for the drainage of the fen lands of the Stow Bardolph district, was lately laid, in the presence of several of the commissioners, which afforded a gratifying sign of improvement to the county.

Poudrette Companies in France.—It is stated that there are twenty-two companies in France busily engaged in converting the refuse of towns into inodorous poudrette. The disinfectant generally employed, is said to be the chloride of iron.

Derby Cows.—The native cows of that county is the old long-horned breed. They are said to be scarce, and are only to be found in a few dairies near the lakes in Westmoreland, in Lancashire, Cheshire, Shropshire, Staffordshire, Derbyshire, Warwickshire,

Gloucestershire, and Oxfordshire. The breed is becoming deteriorated from the practice of breeding "in-and-in." Their milk and cream, as well as their beef, are represented to be of superior quality. They are longer in attaining their growth than the short horns, but feed easier; that is, fatten quicker on inferior food, and are more certain of breeding in a rigorous climate. The short-horns give more milk at first, after having calved, but the long-horns continue longer in milk. They are also longer in attaining their full milk, but they have been known to produce an abundance up to the age of 17 or 18 years. One instance is recorded in which a cow of this race gave 13 quarts each meal, and held on to 11 quarts until she went dry.

Hornets.—Part of their diet consists of nectarines, peaches, apricots, grapes, greengages, plums, apples, and Pears. The wasp is carnivorous as well as fructivorous, and entomologists will probably pronounce the hornet to be so likewise. It enters bottles of sugar and water or sugar and beer that are hung about wall fruit trees as wasp traps.

Tying Herbaceous Plants.—Instead of tying these up like sheaves of corn, have a hoop of a small wire drawn through or fastened tightly to an upright stick placed in the ground. Then let the flower stalks be tied regularly round the hoop, having some loose ones in the centre to form a close head. Some staked in this way here look extremely well.

Dr. Klotzsch's Plan of Topping Potatoes.—Mr. Wainwright, of Rushton, Northamptonshire, has tried Dr. Klotzsch's plan of topping the potato crop, and gives the following as the result of his experiment. Row in which the leading shoots were nipped off—

Produce. Sound. Diseased. Diseased when dug. After being dug.

70 lbs. 14 lbs. 56 lbs. 14 lbs. 42 lbs.

Row in which the leading shoots were untouched—

Produce. Sound. Diseased. Diseased when dug. After being dug.

88 lbs. 23 lbs. 65 lbs. 11 lbs. 52 lbs.

Giving an excess of diseased tubers in the former instance in the proportion of 344 to 317. The produce however, in the former case, was of the finer quality. Notwithstanding great care has been taken to give the potatoes as little manure as possible, the disease has been most pernicious. The result of two weighings gave 98 lbs. sound to 111 lbs. diseased, and 46 lbs. sound to 325 lbs. diseased. The diseased tubers, after a few days, became extremely offensive and utterly useless.

Extraordinary Crop of Potatoes.—A gentleman in Banff, having in the spring received a few potatoes, part of a small quantity procured from Rotterdam, planted them in his garden in the Seatown having cut the seed as usual. The plants very soon appeared, and through the summer continued to grow most luxuriantly, so much so that all who saw them predicted that there would be nothing but shaws. This prediction, however, has been anything but verified; for, on the crop being dug, which it was on Tuesday last, there were gathered from the ground, which consisted of exactly one Scotch rood, or fall, or the 160th part of a Scotch acre, the unprecedented quantity of 18 pecks, or four and a half bushels—the produce being thus at the rate of 720 bushels per acre. At several of the stems upward of 40 potatoes were found, one had 63 full-grown potatoes, and another were counted the very extraordinary number of 110. We understand that the gentlemen who received them has determined upon greening and preserving the whole for seed, and we sincerely trust that he will be successful in bringing this prolific potato into general use. We may mention that there was not the slightest appearance of disease, but on the contrary, every tuber had the most healthy appearance, giving every reason to believe that not a seed will be lost.—*Banff Journal.*

Editor's Table.

CATTLE SHOW AND FAIR OF BURLINGTON COUNTY AGRICULTURAL SOCIETY, NEW JERSEY.—We received the New-Jersey Mirror, containing full particulars of the Annual Show of this flourishing society. We think it must have been a spirited affair and highly gratifying to all present. We observe that Mr. A. Maillard, of Bordentown, took seven first premiums for different kinds of things shown there; but with his characteristic liberality, he declined them all, and generously handed them over to the society to be offered again next year. Success we say to the farmers of New Jersey, and we hope another year to be present at some of their agricultural meetings.

PREMIUM DAGUERREOTYPES.—On a recent visit to Brady's Gallery, 205 Broadway, we were favorably impressed at the inspection of several Daguerreotypes, in miniature, of a number of our friends, which excelled in truthfulness, beauty, and finish, anything of the kind we have yet seen. Mr. Brady, who has taken the first premium at the fairs of the American Institute, for three or four years in succession, has brought this comparatively new art to a perfection, no where else surpassed, if equalled, which justly entitles him to the encomium thus bestowed. Being himself an artist of a high order, independent of his knowledge of optics, as connected with this particular branch of his profession, he is enabled to impart to his likenesses, both color and expression almost equal to life itself. By the way—Why is not this art practised more than it is, in taking portraits of favorite domestic animals, trees, buildings, paintings, &c., in which the cost, in many instances, will not exceed one tenth part as much as when sketched or painted the usual way? We hope our agricultural friends will take a hint at this suggestion. Mr. R. S. Griswold, of Connecticut, had his fine Ayrshire stock beautifully Daguerreotyped last year and made sales of them, at a distance, from the portraits, much to the satisfaction of all concerned.

SCHOOL ARCHITECTURE; or Contributions to the Improvement of School Houses in the United States. By Henry Barnard, Commissioner of Public Schools in Rhode Island. Second Edition. Illustrated by Numerous Engravings. New York: A. S. Barnes & Co. Cincinnati: H. W. Derby, pp. 384, 8vo. Price, \$2. This excellent work has been compiled with much care, is handsomely illustrated, and appears to be well adapted to the use of school committees, teachers, and district-school libraries. For a specimen of the work, see our next number.

AGRICULTURAL BOTANY; An Enumeration and Description of Useful Plants and Weeds, which Merit the Notice, or Require the Attention of American Agriculturists. By William Darlington, M.D. Philadelphia: J. W. Moore; New York: Mark H. Newman, pp. 270. Price, \$1. For a favorable notice of this work, see p. 340, of the present volume.

HOVEY'S FRUITS OF AMERICA.—No. 6, of this beautiful work has been received, and contains accurate portraits, printed in colors, of the Early York Peach; Le Curé Pear; Rostiezer Pear; and Flemish Beauty Pear. This is the only periodical in America that is devoted wholly to fruits, and justly deserves, as it receives, a liberal support. Price, \$1 per number, published every alternate month. C. M. Saxton, Agent, 205 Broadway, N. Y.

THE AMERICAN QUARTERLY REGISTER AND MAGAZINE.—This sterling periodical, we are heartily glad to see, has reached its second number, and is replete with a variety of historical, statistical, and other interesting matter useful to be known. The

article on the "Tenure of Land," in particular, should be read and understood by every farmer in the country. The work is edited by Judge Stryker, late of New York, and is published quarterly by E. C. & J. Biddle, Philadelphia. Price, \$5 per annum. For further particulars, see p. 260 of the present volume. C. M. Saxton, Agent, 205 Broadway, N. Y.

LARGE CHEESES.—Three immense cheeses, weighing 1,900, 1,570 and 1,500 lbs. each, were brought from Ashtabula this morning by the steamer Cleveland. The cheeses were made in Ashtabula county by Messrs. Austin & Stone, and give evidence of the great state of perfection to which the dairies on the Western Reserve have been brought. They are boxed up with great care and are on their way to the American Institute for exhibition.—*Buffalo Paper.*

MAMMOTH CORN.—We have received an ear of corn, which was raised on the farm of Mr. Thomas Inden, about two miles from the town of Cape Girardeau. It is most extraordinary for its length, which is sixteen inches, and contains sixteen rows, and an average of seventy grains to the row, making 1,120 grains to the cob.—*St. Louis Rep.*

WELLERISM.—"I wish to introduce a bill for the destruction of worms," as the woodpecker said in a late stump speech.

A PLAIN TRUTH PLAINLY SPOKEN.—A writer of the present day says there never was a time since the completion of the pyramids, when such a clamor was abroad, as now, for the right to work; and there never was a generation, since the invention of easy chairs and gloves, that tried so hard to shirk it. People want to have their hands employed 'tis true, but in climbing, not in labor. Their endeavor is not to get their living out of the ground, but out of one another, like ants and spiders.—*Exchange Paper.*

CONFUSION OF NAMES IN THE CHINA GOOSE.—There is a venerable joke about a Spanish Don who knocked at a cottage door to ask a night's lodging. "Who's there? What do you want?" said the inmates. "Don Juan José Pedro Antonio Alonzo Carlos Geronimo, &c., &c., &c., wants to sleep here to-night." "Get along with you," was the reply; "How should we find room here for so many fellows?" The China goose is in the same position as the Spanish Don. It has names enough to fill a menagerie China Goose, Knob Goose, Hong-Kong Goose, Asiatic Goose, Swan Goose, Chinese Swan (*Cygnus sinensis*, Cuvier), Guinea Goose, Spanish Goose, Polish Goose, Anas and Anser cygnoides, Muscovy Goose, African Goose, and probably more besides.

ANOTHER SAGACIOUS SHEEP.—In the 29th number of the Mail, was an article concerning a sagacious sheep, which put me in mind of one I owned four or five years ago. It was a Southdown buck. The difference between the two sheep was, that while the one alluded to in the Mail would go and call up his master to take care of mischievous cattle,—mine would go and take care of them himself. I have known him, when my cattle have broken into my neighbor's field, to drive them all out, and stand by the gap in the fence and keep them out. He would leave the sheep and feed with the cattle during the summer. He was a peacemaker, for he would not allow any fighting among the cattle. He mastered all my cattle, and if my neighbors' came to my barn, he would drive them home. My small boys would sometimes get on his back to ride, when he would contrive all ways to rub them off—running close to the post of the shed, the fence, or corner of the barn. He would not be pushed, crowded, nor insulted, in any way, and though a friend of peace, I have known him to fight many a duel. But the poor fellow came to the block, at last, and was beheaded.—*Eastern Mail.*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, OCTOBER 25, 1848.

ASHES, Pots,.....per 100 lbs.	\$6 12	to	\$6 19
Pearls,.....do.	6 25	"	6 31
BALE ROPE,.....lb.	6	"	8
BARK, Quercitron,.....ton	26 00	"	28 00
BEANS, White,.....bush.	75	"	1 25
BEESWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12 1/2
BONES, ground,.....bush.	45	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	11	"	13
Sperm,.....do.	25	"	38
Searic,.....do.	30	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	4 50	"	5 50
CORDAGE, American,.....lb.	10	"	12
COTTON,.....do.	6	"	9
COTTON BAGGING, Amer. hemp,.....yard	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'm bbl.	5 00	"	5 57
Fancy,.....do.	6 00	"	6 50
Richmond City Mills,.....do.	7 00	"	7 25
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 50	"	4 00
GRAIN—Wheat, Western,.....bush.	1 10	"	1 31
Red and Mixed,.....do.	1 00	"	1 20
Rye,.....do.	67	"	69
Corn, Northern,.....do.	65	"	73
Southern,.....do.	60	"	66
Barley,.....do.	73	"	78
Oats,.....do.	27	"	35
GUANO, Peruvian,.....2,000 lbs.	50 00	"	50 00
Patagonian,.....do.	34 00	"	40 00
HAY, in bales,.....do.	45	"	50
HEMP, Russia, clean,.....ton.	195 00	"	200 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	6	"	7
HOPS,.....lb.	4	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 25	"	4 37
Pipes for Pump, &c,.....lb.	8	"	3
MEAL, Corn,.....bbl.	3 12	"	3 35
Corn,.....hhd.	12 50	"	13 00
MOLASSES, New Orleans,.....gal.	23	"	24
MUSTARD, American,.....lb.	16	"	21
NAVAL STORES—Tar,.....bbl.	9 00	"	2 25
Pitch,.....do.	1 00	"	1 35
Rosin,.....do.	1 19	"	1 35
Turpentine,.....do.	3 00	"	3 22
Spirits Turpentine, Southern,.....gal.	40	"	56
OIL, Linseed, American,.....do.	54	"	70
Castor,.....do.	1 50	"	1 70
Lard,.....do.	70	"	75
OIL CAKE,.....100 lbs.	1 00	"	1 15
PEAS, Field,.....bush.	1 00	"	1 25
Black eyed, 2 do.,.....do.	1 00	"	1 37
PLASTER OF PARIS,.....ton.	2 20	"	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	13 50
Prime,.....do.	5 00	"	7 50
Smoked,.....lb.	6	"	6
Reunds, in pickle,.....hhd.	4	"	6
Pork, Mess,.....do.	9 75	"	13 00
Prime,.....do.	7 00	"	10 00
Lard,.....lb.	3	"	3 1/2
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack.	1 25	"	1 45
Common,.....bush.	30	"	35
SEEDS—Clover,.....lb.	5	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 18	"	1 20
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	8	"	9
TOBACCO,.....do.	2 1/2	"	7
WHISKEY, American,.....gal.	23	"	25
WOOLS, Saxony,.....lb.	25	"	30
Merino,.....do.	25	"	35
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 14 cents per lb.; Veal, 7 to 12 cents; Lamb, 4 to 9 cents; Mutton, 6 to 9 cents; Pork and Sausages, 8 to 10 cents; Ham and Bacon, 8 to 12 cents; Beeves' Tongues, 37 to 62 cents each; Young Pigs, 75 cents to \$1.25 each.

Fish, &c.—Sea Bass, from 8 to 10 cents per lb.; Halibut, 10 to 12 cents; Cod and Haddock, 6 to 5 cents; Weak Fish and Blue Fish, 6 to 8 cents; Black Fish, 7 to 8 cents; Flounders and Poggies, 6 to 6 cents; Eels, 6 to 8 cents; Pike, 10 to 12 cents; White and Yellow Perch, 8 to 10 cents; Green Turtle, 10 to 12 cents; Lobsters, 6 to 6 cents; Fresh Mackerel, 10 to 12 cents each; Crabs (soft-shelled), 62 to 75 cents per dozen; Crabs (hard-shelled), 12 to 25 cents per dozen; Oysters, 75 cents to \$1.50 per 100; Clams, 25 to 50 cents per 100.

Poultry, Eggs, and Game.—Young Turkeys, from 75 to \$1 each; Old Turkeys, \$1 to \$2; Geese, 75 cents to \$1.25; Ducks, (domestic), 75 cents to \$1 per pair, Ducks (canva-backed), \$1; Ducks, (wild), 50 cents; Teal and Widgeons, 50 cents; Chickens, 50 cents to \$1; Partridges, 50 to 60 cents; Pigeons, \$1.25 to \$1.50 per doz; Woodcocks, \$2 to \$2.25; Snipes, \$1.25 to \$1.50; Yellow Legs, \$1.50; Rice Birds \$2 to 75 cents; Rail Birds, \$1.50. Robins, 25 to 37 cents; Crow Black Birds, 50 to 62 cents; Quails, \$1 to \$1.25; Rabbits, 10 to 12 cents each; Grey Squirrels, 6 to 10 cents; Venison, 12 to 18 cents per lb.; Eggs, 8 to 10 for 13 cents.

Honey, from 15 to 17 cents per lb.

Dairy Products.—Butter, from 12 to 28 cents per lb.; Cheese, 6 to 12 cents; Cheese Cakes, 8 for 12 1/2 cents; Milk, 3 to 6 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Lady Apples, from \$3 to \$5 per bbl.; Newtown Pippins, Vanderberges, and Spitzenbergs, \$1 to \$2.50; Belle Fleurs, R. L. Greenings, Fall Pippins, Golden Pippins, Pearmain, Gilliflowers, and Roxbury Russets, \$1 to \$1.50; Apples in small quantities, 3 to 12 cents per half peck; Vergennes Pears, \$3 to \$4 per bushel, or 50 cents per half peck; Winter Pears, \$1 to \$2.50 per bushel; Quinces, 50 cents to \$3.50 per 100; Cranberries (eastern), \$6 to \$7 per bbl., or 31 cents per half peck; Grapes (Malaga), 18 to 25 cents per lb.; Grapes (Isabella and Catawba), 10 to 16 cents; Oranges, 37 to 75 cents per dozen; Lemons, 18 to 25 cents; Bananas, 37 to 75 cents; Chestnuts, \$3 to \$3.50 per bushel; Hickory Nuts, \$1.50 to \$2; Pecan Nuts, \$1.25 to \$1.50; Cocoa Nuts, 6 cents each; Pecan Nuts, 8 to 10 cents per lb.; Filberts, 8 cents; Madelra Nuts, 10 cents; Almonds (hard-shelled), 12 cents; Almonds (soft-shelled), 16 cents.

Vegetables.—Carter, Mercer, and Kidney Potatoes, from 62 to 75 cents per bushel; Pinkeyes, 37 to 50 cents; Potatoes in small quantities, 6 cents per half peck; Sweet Potatoes, \$1 to \$1.25 per basket, or 25 cents per half peck; Onions (common red), 37 to 50 cents per bushel, or 5 cents per rope; Onions (silver-skinned), 50 to 62 cents per bushel; or 12 cents per half peck; Leeks, 9 for 5 cents; Tomatoes, 75 cents to \$1 per bushel, or 16 cents per half peck; Green Peppers (large), 75 cents to \$1 per 100; Citron Melons (for preserving), 6 to 18 cents each; Valparaiso and Patagonian Squashes, 25 to 50 cents each; Canada Crook-necked Squashes, 6 to 12 cents each; Long-necked Striped Squashes, 12 to 18 cents each; Green Corn, \$1 to \$1.25 per 100 ears, or 8 ears for 12 cents; String Beans, 18 to 25 cents per half peck; Lima Beans (shelled), 15 to 18 cents per quart; Flat Turnips, 25 cents per bushel, or 8 cents per peck; Ruta Bagas, 37 cents per bushel; Beets 37 to 50 cents per bushel, or 1 cent each; Carrots, 50 to 62 cents per bushel, or 2 cents each; Parsnips, 37 to 50 cents per bushel, or 3 cents each; Oyster Plants, 6 to 8 cents per bunch; Purple Cabbages, 8 to 10 cents per head; Cabbages (common), 4 to 6 cents; Cauliflowers, 18 to 30 cents; Celery, 6 to 12 cents; Lettuces, 1 to 2 cents each; Radishes, 1 cent per bunch; Egg Plants, 4 to 6 cents each.

REMARKS.—No changes worth speaking of since our last. The crops are now all in at the north. Wheat and Corn have proved a large yield; the other grain crops, and Hay a full average. Potatoes, a good crop; Turnips, rather short; other roots, a fair crop. Cotton, Sugar, Rice, Hemp, and Tobacco, about the same as last year—a full average yield on the whole.

TO CORRESPONDENTS.—Communications have been received from J. Bevan, E. S. C. N. Bement, Harry Ingersoll, D. Dan forth, Thomas B. Smith, Samuel Allen, Reviewer, R. B. Parsons and N. Longworth.

Kephart's Fruit and Vegetable Preserver.—D. R. R., of Saratoga.—For an improvement on this invention, see page 332, of the present volume.

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 American Shepherd, by Morrell. \$1.
 American Agriculture, by Allen. \$1.
 American Poultryer's Companion, by Bement. \$1.
 American Veterinarian, by Cole. 50 cents.
 Bust's Kitchen Gardener. 75 cents.
 Bust's Farmer's Companion. 75 cents.
 Chaptal's Agricultural Chemistry. 50 cents.
 Downing's Fruits and Fruit Trees of America. \$1.50.
 Domestic Animals, by R. L. Allen. Cloth, 75 cents; paper, 50 cents.
 Domestic Economy, by Miss Beecher. 75 cents.
 Farmer's and Emigrant's Hand-Book. \$1.
 Fruit Culturist, by J. J. Thomas. 50 cents.
 Gardener's Farmer's Dictionary. \$1.50—leather, \$1.75.
 Farmer's Manual. 50 cents.
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 " Cottage Residences. \$2.
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 Thomas' Fruit Culturist. 50 cents.
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 ✂ Orders sent by mail, accompanied by Cash, will receive prompt attention, and the books sent by mail, or otherwise.
 Address C. M. SEXTON, 205 Broadway, New York.
 4th Nov.

ANNUAL MEETING OF THE NEW YORK STATE AGRICULTURAL SOCIETY.

THE Annual Meeting of this Society will be held at Albany, on the third Wednesday (17th) of January, 1849. Premiums will be awarded on Grain and Root Crops, Butter, Cheese, Fruits, &c. Statements should be furnished the Secretary early in January.

It is desired that there should be a full representation from County Societies, as well as of the friends of agriculture generally.

A Pomological Exhibition will be held at the rooms of the Society, and growers of fruit are respectfully requested to forward specimens to the secretary as early, if practicable, as the 15th of January.
 B. P. JOHNSON, Secretary.
 Nov. 1st, 1848. n3t

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The Ornamental Department comprises all the most desirable deciduous and evergreen trees and shrubs, vines, creepers, &c., in some 800 varieties, many of which are new and rare, and valuable for arboreta. Also, a fine stock of roses, hedge plants, &c.

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After a thorough investigation of the different systems adopted in Europe and America, and of the rates of premium charged, this company have reduced the premium 25 per cent. payable in cash, annually, semi-annually, or quarterly, as may be preferred, under a firm conviction that the exigencies of the Company will never exceed and seldom require *one half* of the annual premium now charged by the English and American Companies, which reduction will still leave a large margin for reasons of unusual sickness and death among its members—preferring to reduce the premiums at once to an amount more nearly approximating the actual necessities of the Company than to adopt the system of *premium notes* which is attended with many disadvantages.

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2. A reduction in the rates of premiums—payable annually semi-annually, or quarterly, as may be preferred.
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4. Insurance may be effected by any married woman upon the life of her husband, for her sole use and benefit, free from any claims of the representatives of her husband, or any of his creditors.
5. No personal liability of the members beyond the amount of their annual premium of insurance.
6. Creditors may insure the lives of their debtors, or debtors themselves may insure for the protection of their creditors.

A prospectus has been issued (which can be had at the office of the Company, or any of its agents), explanatory of the terms and conditions of insurance.

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With Directions for their Management, Breeding, Crossing, Rearing, Feeding, and preparation for a profitable market.

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It will give impulse, encouragement, and success to every one fond of raising fine, healthful and profitable farm animals. Every such farmer may be sure of real pleasure and profit in studying the book. The young sons and daughters of farmers will find evenings well and pleasantly spent in gaining from it the information for which they will have practical use the rest of their lives.—*Old Colony Memorial.*

Most earnestly do we wish that every agriculturist, in our section, would possess himself of this really interesting book, and abide by its precepts. Sure, are we, that the result would soon be exhibited in an improvement of stock generally.—*Parkersburg, Va., Gazette.*

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The title page of this work gives a good idea of its scope and intent. It is a comprehensive summary of farm operations, and will prove very acceptable to the great mass of our farming population. We are informed that 3,000 copies of the work have been sold since the first of January. It is well printed and profusely illustrated.—*N. Y. Tribune.*

It is furnished with numerous illustrating cuts, and will form a complete "vade mecum" for the agriculturist, convenient for reference and to be relied on when consulted.—*Baltimore American.*

This is a practical book by a practical man and will serve extensive practical ends. It is a companion which every farmer will feel that he cannot well be without.—*N. Y. Observer.*

We cheerfully recommend this work to farmers.—*Signal, Juliett, Ill.*

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Warren's ".....	\$25
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" $\frac{1}{2}$ " " " 1 " 14 " 6 do 6 "	
" $\frac{3}{4}$ " " " 2 " 8 " 8 do 4 "	
" $\frac{1}{2}$ " " " 3 " 8 " 10 do 8 "	
" 1 " " " 5 " 10 " 14 do " "	
" $1\frac{1}{4}$ " " " 6 " 12 " 17 do 8 "	
" $1\frac{1}{2}$ " " " 11 " " 19 do " "	
" 2 " " " 16 " 12 " 27 do " "	
" $2\frac{1}{2}$ " " " 21 " 8 " 50 do " "	
" 3 " " " 24 " " 59 do " "	
" $3\frac{1}{2}$ " " " 45 " " 60 do " "	
" 4 " " " 49 " " 90 do " "	
" 4 " " " Water Pipe: 15 do 14 " "	
" 4 " " " " 17 do 4 " "	
" 5 " " " " 34 do " "	

Price of the above pipes from $5\frac{1}{2}$ to 7 cents per lb. Tinned pipe, $\frac{1}{2}$ cent per lb. extra.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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A. B. ALLEN, EDITOR.

C. M. SAXTON, Publisher, 121 Fulton Street.

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TO OUR READERS.

ANOTHER year has passed, and with this number closes the seventh volume of the *Agriculturist*. We sincerely hope and trust our labors in conducting it have not been altogether unavailing, and that those we have so assiduously endeavored to instruct, have profited thereby.

It gives us pleasure to add, that our subscription list has been steadily augmenting ever since the paper was started; and now that the *Farmers' Cabinet* has been joined with it, we are confident, few, if any agricultural periodicals, can boast of a greater number or of a more intelligent class of readers.

To our well-known facilities for conducting a first-rate journal, we shall add, the coming year, all such improvements as are found upon proper experiment to be of any practical value; and thus keep the *Agriculturist* up to the high stand which it has maintained since its origin. But to do this, effectually, and give interest to its columns, our friends must not forget that we stand in need of their efficient aid. Continue then to write and act for us, as you have so kindly done heretofore. Give us from month to month, all the information you may possess, and obtain for us as many subscribers as you possibly can. Every reader should act as an agent for our periodical, and not only work himself, but induce all within his reach to do the same. Let him reflect that he will thus more essentially serve the interests of the farmer and planter, and be more instrumental in developing the resources of his country than he could otherwise do. Subscribers are reminded that the terms of our paper require payment to be made *invariably in advance*. They would never make objection to this, if they had any idea of the loss and trouble of conducting a periodical any other way.

SEASON FOR FELLING TIMBER.

THE true cause of decay in timber may be traced, in many instances, to felling trees at a wrong season, and that *wrong season is spring*; for then the sap is in a peculiar state, and highly disposed to ferment when it can no longer flow through the tissues. It may be said to act as yeast acts on moistened flour. We do not mean to assert that the heart of oak will, in a short period, become as tender as a loaf of bread. The quantity of sap which it contains is less in proportion to the solid parts than in softer woods. Many kinds of the latter, cut late in spring, however, have frequently been observed in a state so thoroughly decomposed as to be easily crumbled by the fingers in one or two years from the time the pieces were cut; whilst the same kinds of wood cut in the beginning of winter, but in all other respects similarly treated, remained perfectly sound. Any person who can cut off a limb of a tree in the beginning of December, and another limb from the same tree in spring, immediately before the buds expand, may convince himself that the beginning of winter is the best time to cut timber, and that the use of spring-felled timber ought to be entirely prohibited in all cases where the safety of individuals is liable to be affected by the want of strength in structures formed from this perishable material.

In order that wood may possess its greatest degree of natural compactness and elasticity, combined with hardness and durability, it must be felled in the early part of winter; and although means may be employed for driving out the fermenting, or putrescent sap, left behind in the late spring cutting, and for substituting antiseptic substances, yet there is no proof that the desirable properties, above mentioned, will be so ensured. On the contrary, it has been proved that strength and elasticity, or toughness, have been diminished in many cases, when wood cut in sap has been subjected to preservative processes.

In stating this, we do not wish to imply that the application of preservatives is unimportant. Quite the contrary. But the proper season for cutting timber should take precedence of all other considerations in regard to its preservation. If this is admitted and acted upon, means may then be employed for preventing that decay to which the soundest wood is liable, sooner or later.

ELECTRO CULTURE.

THERE have been numerous experiments of late years in the application of electricity to the growing of plants. This practice has received the name of *electro culture*. It consists in elevating electrical conductors, generally of iron wire, upon poles placed in the centre of each end of a bed, and conducting the electricity through it with wires so arranged as to come into contact with the roots. Or, it is more usual to place continuous parallel wires, connected with a galvanic battery at one end, and thus constitute a circuit through which the electrical current passes.

From the success of a few isolated experiments made years ago, which developed vegetable life with astonishing rapidity, magnificent calculations were made of the future economical application of electricity in practical agriculture. Many enthusiasts have recently tried various experiments in it,

and have achieved what they deemed the most successful results. But it has been since ascertained, that in the ardor of zeal in arriving at satisfactory conclusions, their gardeners and other laborers were directed to supply an ample bed of rich vegetable mold for the electrical wires to revel in, and liquid manures and composts of various kinds were added from time to time, as being best calculated to produce an abundant and rapid flow of the galvanic current. The provision for this favorable development of this new agent of vegetation, has even been so abundant in numerous instances as to have absolutely burnt up and destroyed the crops from its excess. It was not surprising, therefore, that extraordinary results followed the application of electricity, when accompanied by such powerful allies.

In defiance, however, of all these favorable conclusions, many less confident experimentalists have followed the rules systematically laid down by the masters; but when unaccompanied by the chemical adjuncts of animal, liquid, and other manures, they have proved wholly inoperative, and the crops have scarcely come up to the ordinary standard of contiguous and otherwise similar crops. It has even been found, on close scrutiny, that the rootlets of the plants, instead of running towards, and embracing this foster mother, as plants usually do, those substances from which they derive support, have decidedly cut her acquaintance, and turned back upon themselves, and hug and cling to each other in the narrow space, midway between the wires, rather than approach this new and questionable relation.

We are led to infer, therefore, that whatever remains yet to be brought to the aid of agriculture from electro culture, requires some mode for its application not yet adopted by the "knowing ones."

ADULTERATION OF FOOD.—No. 6.

Sugar.—This article, perhaps, has been subject to adulteration more than any other. Fortunately, however, the substances generally employed, have been comparatively harmless, merely weakening the article rather than imparting any poisonous quality.

Of inorganic substances, sand, chalk, plaster of Paris, and pipe clay have been used; of organic matter, flour, potato starch, and potato sugar, the latter of which is made by boiling potato starch for many hours with dilute sulphuric acid, neutralizing the excess of acid by chalk, and evaporating the clear liquid to a certain specific gravity, at which point it solidifies into a mass of crystals. These are drained, and are then employed for adulterating sugar, or for imparting sweetness and strength to wine or beer, and also for falsifying honey. The addition of this substance to ordinary cane sugar, has the effect of rendering the sweetening power of the latter much less considerable; for, cane sugar possesses a sweetening power two and a half times as great as that of potato sugar. Hence, a very much larger quantity of sugar thus adulterated must be employed to produce a given effect; and hence sugar, in this condition, is much more expensive in use than pure cane sugar.

For some years past, moist sugars have been largely adulterated with the sweet waste liquor (solution of glycerine), evaporated to a proper consistency, which is formed in the process of saponifying oils and fats. This liquid may now be procured, by hogsheds at a time, from the stearine

manufacturers, who obtain it by the saponification of lard and tallow. This fraud, however, may be detected by the inferior sweetness, and by the moist and dirty appearance of the sugar.

Sand, chalk, plaster of Paris, and pipe clay can be detected by dissolving the suspected sugar in a considerable quantity of water, and allowing it to clear itself by precipitation. The residuum remaining at the bottom of the liquid, will indicate, in a degree, the amount of adulteration.

Honey.—This substance is very often adulterated with potato starch, wheaten flour, and in some instances, with bean meal. These are added to give brown honeys a certain degree of whiteness, and also to increase the weight. Bean meal, however, is seldom employed on account of its taste.

Starch syrup and starch sugar are likewise used in reducing the standard of honey, as well as treacle, and sugar cane of various degrees of purity. Also, chalk, plaster of Paris, and pipe clay, all of which may be detected by mixing the suspected article with a large quantity of water, and allowing it to clear itself by precipitation, in a similar manner as recommended for sugar. Cane syrup, and molasses may be detected in honey both by their color and smell.

BOOK FARMING.

We had a fine example of hostility to book farming a few days since. One among the wealthy and respectable portion of our citizens, on being invited to subscribe for an agricultural paper, broke out into a most furious declamation against all attempts to improve the agriculture of the country, through the means of the diabolical art of printing. "He would have any man hung, drawn, and quartered, who would presume to attempt enlightening the public on agriculture through the means of the press, saving and excepting the present company. The farming of the present day, the crops, the soil, the orchards, animals, and indeed, whatever was connected with cultivation, was far behind what it was 30 years ago. Writing on agriculture, tended only to mislead; nobody but enthusiasts (knaves and idiots he meant), would write, and none but a similar class would read anything on the subject. Farming was to be learnt by example only; the old fashion was the best fashion, and nearest in accordance with common sense and sound judgment."

About half this tirade against this innovation upon the olden time, he believed; the other half he feigned; but he gave the lie to the whole of it in half an hour afterwards by purchasing a hundred dollars' worth of improved agricultural implements, which, but for the spirit awakened, and the knowledge developed by the agricultural information spread before the people of the present day, by our valuable periodicals devoted to this subject, would have remained where he thought the fruits and other matters connected with ancient agriculture, were, viz. in the models of a past generation.

The man who believes the agricultural press has done nothing for the cause in the present generation, is to be pitied. The man who feigns to believe it, deserves worse. Both are burying or clogging the benefits of that talent, which they will be called upon to account for hereafter, with usury.

PHOSPHATE OF LIME.

In a recent publication of the Royal Agricultural Society of England, Professor Johnston says:—"In the Magnesian limestones of Durham, I have hitherto found only .015 to .07 per cent of tribasic phosphate of lime; I have from our blue mountain limestone from Lanarkshire, obtained 1.39 per cent and in the burned lime as it comes from the kiln, 2.33 per cent. A ton of this burned lime, therefore, which is full of fossils, contains as much phosphate of lime as a hundred weight of bones."

What a proof is contained in the above of the utility of scientific knowledge when applied to practical agriculture. A large number of our industrious pains-taking farmers never read our agricultural journals, and yet think science when applied to their pursuits, is worse than useless. These worthy but benighted men, use lime as a manure, and one mass of rock that will burn into lime is of the same value in their eyes as another. Yet, the effects of an equal quantity of the lime furnished from three different quarries of stone, or marl beds, applied on adjoining and similar fields and crops, may be, that one is found to burn up the vegetation; a second produces only moderate results; and a third yields a crop perhaps double that of any other field receiving an equal amount of lime from any other source. He looks at the crops, scratches his head, but the operation elicits no rational idea, and he dreams himself to the conclusion that the moon, or weather, or insects, or witchcraft, or something else which it would be idle, or perhaps *book-farming* for him to look after, had caused the difference.

If he would take these minerals to a thorough chemist, he would find that the first specimen was magnesian lime, the second carbonate of lime, and the third contained a notable proportion of phosphate of lime. He would then know, if he knew anything of the effects of each, that one half or one fourth of the first (according to the proportion of magnesia it contained), would have saved him his crop which had been destroyed, and been a lasting benefit to his land; while the use of the last afforded a dressing of incalculable value to such soils as were deficient in it.

APPROVED VARIETIES OF FRUITS.

At the National Pomological Convention, recently held in this city, which was composed of many of the most eminent fruit growers from the northern, middle, and western states, after three days' discussion, the following select list of fruits was recommended for cultivation throughout the country, as thriving the best in the different soils and climates of the United States:—

Peaches.—Varieties recommended for general cultivation. Grosse Mignonne, Early York (serrated), Old Mixon (free), Coolidge Favorite, Crawford's Late, Bergen's yellow. For particular localities, Heath Cling.

Plums Recommended for General Cultivation.—Jefferson, Washington, Green Gage, Purple Favorite, Coe's Golden Drop, Bleeker's Gage, Frost Gage, Purple Gage. For particular localities, Prince's Imperial.

Cherries.—Varieties recommended for general cultivation. Black Eagle, Mayduke, Bigarreau,

Black Tartarian, Knight's Early Black, Downer's Late Red, Elton, Downton.

Apples.—Varieties recommended for general cultivation, Early Harvest, Large Yellow Bough, American Summer Pearmain, Gravenstein, Summer Rose, Early Strawberry, Fall Pippin, Rhode Island Greening, Baldwin, Roxbury Russet. For particular localities, Yellow Belle fleur, Swaar, Esopus Spitzenburg, Newtown Pippin.

Pears.—Varieties recommended for general cultivation. Madeline, Dearborn Seedling, Bloodgood, Tyson, Bartlett, Seckle, Louise Bonné de Jersey, Flemish Beauty, Beurré, Bosc, Winter Nelis, Beurré D'Arenberg, Golden Beurré, of Bilbao. For certain localities, White Doyenné, Gray Doyenné.

THE COW—HER DISEASES AND MANAGEMENT.—No. 8.

Rheumatism of the Loins, or Lumbago.—The cause of this disease is attributed to obstructed perspiration, brought on by colds; and this cause will be the more active where the body of the animal is already in a morbid state. The seat of the malady is evidently in the tendons and muscles of the loins which acquire a diseased rigidity and harshness.

The first symptoms of the disease are a loss of milk, attended with fever, costiveness, and loss of appetite. On motion in the stall, the animal reels from one side to the other, and sometimes falls down, as if having no use of her hind legs; she then rises with the greatest difficulty, or cannot rise at all without assistance. When turned loose, she walks with great difficulty with her hind limbs; and, in addition to these symptoms, in the progress of the disease, her skin adheres tight to her body. Many symptoms may also show themselves from a violent strain of the loins, by one cow riding another, as happens in times of heat; but this accident may generally immediately be perceived.

The first remedy to be applied, in the treatment of this malady, as in other inflammations, is bleeding, proportioned in its quantity to the violence of the symptoms, and the strength and condition of the animal, say from three to five pints. When the bleeding is over, the following medicines may be mixed together and given, milk warm, in two quarts of water gruel and half a pint of molasses:—

Sulphur, from 9 oz. to 1 lb.; grains of Paradise, (cardamom seeds), 3 drachms; saltpetre, 1½ oz.; tumeric, ½ oz.; cummin seed, ½ oz.

This medicine usually operates briskly, and will often continue for ten or twelve hours. After its operation is over, the following combination will be proper, mixed together and given to the animal, at one dose, in three pints of mild ale or beer, with a handful of wormwood previously boiled, which dose may be repeated, if necessary, once a day:—

Saltpetre (nitre), 1½ oz.; flour of sulphur, 1½ oz.; camphor, ½ drachms; juniper berries, 1½ oz.; long pepper, ½ oz.; oil of turpentine, 1½ oz.

Besides the above, local applications will often be found highly useful. For instance, the following charge, laid on the loins of the animal, as the weakness appears more in that part than any other; for she can generally raise her fore parts, while the hind ones seem useless:—

Black and Burgundy pitch, ½ lb.; oxycroceum and paracelsus plasters, 3 oz.; bole Armenian and dragon's blood, 1½ oz.

To be melted over the fire, and spread, while hot, but not so hot as to scald, all over the rump, as well as the loins. Some wool or saddler's stuffing, should be stuck on it, in order to keep it in its place. As soon as this is completed, the cow must be got up and put into a sling, made of sacking and ropes, so that she may feel the floor with her legs, which are to be well rubbed two or three times a day. She must remain in this situation till she can stand of herself, and get up without the assistance of the sling. The disease generally gives way to this practice in the course of ten or fifteen days.

The food and drink to be given during the treatment of this disease may be the same as recommended in other inflammations, such as an abundance of warm water gruel, or mashies made of malt, bran, or Indian meal.

Consumption, or Wasting.—This complaint is generally caused by cold and improper food; the former excites inflammation, and produces ulceration in the lungs; while the latter, either by conveying deficient nourishment or nourishment of an improper kind, will produce the same effect. In proof of this last assertion, there are instances on record, of potatoes being given to cows in excess, and continued for some time, with the view of increasing their yield of milk, the consequence of which was, that, though they gave a greater proportion of milk, they fell into this disease, and were seized with a wasting and a cough. Besides this, where food of a forcing nature is given to the animal, as beets, carrots, parsnips, &c., for the purpose of promoting the flow of milk, the consequence will be to produce this disease.

The predominant symptoms of this malady, are a gradual emaciation of the body of the animal, or pining away, attended with a slow fever and a cough; but where the appetite is not much affected, the progress of the complaint is generally marked by an attack of looseness, which, in the end, proves fatal. During the course of the disease, there prevails a remarkable flow of milk, which tends to exhaust the strength of the cow, and consequently the symptoms increase. It may be remarked, however, that this wasting seldom occurs in the country, but is chiefly confined to cows confined to stalls in town, the mode of feeding of which is different from that of those kept in a free and open situation, on different food.

When the first symptoms of this complaint appear, the object should be to prevent, as far as possible, the wasting of the body from going farther, to the injury of the animal. She should be dried off immediately, or kept no longer for the purpose of milking. This will often be sufficient to effect a cure. Where the disease is connected with inflammation of the lungs, bleeding, and the same treatment recommended under the head of "Inflammation of the Lungs," at p. 207, is the only plan, perhaps, that can be adopted with success; but when the disease is far advanced, this and every other mode of treatment, as far as known, will be found ineffectual.

AGRICULTURE OF THE CHINESE.—No. 12.

Varieties of Tea Manufactured for the European and American Markets.—In order to give the reader some idea of the different sorts of teas manufactured for the European and American markets, I cannot do better than quote some excellent remarks on this subject, by Sir John Francis Davis, in his work, "The Chinese."

As tea has always held so principal a place in our intercourse with China, it requires some particular consideration as an article of commerce. We have seen before, that the fineness and dearness of tea are determined by the tenderness and smallness of the leaf when picked. The various descriptions of the black diminish in quality and value as they are gathered later in the season, until they reach the lowest kind, called by us Bohea, and by the Chinese *Ta-cha*, "large tea" on account of the maturity and size of the leaves. The early leafbuds, in spring, being covered with a white silky down, are gathered to make pekoe, which is a corruption of the Canton name *Pak-ho*, "white down." A few days' longer growth produces what is here styled "black-leaved pekoe." The more fleshy and matured leaves constitute souchong; as they grow larger and coarser they form Congou; and the last and latest picking is Bohea. The tea farmers, who are small proprietors, or cultivators, give the tea a rough preparation, and then take it to the contractors, whose business it is to adapt its farther preparations to the existing nature of the demand. The different kinds of tea may be considered in the ascending scale of their value.

1. *Bohea*, which in England is the name of a quality, has been already stated to be, in China, the name of a district where various kinds of black tea are produced. The coarse leaf brought under that name to this country is distinguished by containing a larger proportion of the woody fibre than other teas; its infusion is of a darker color, and as it has been more subjected to the action of fire, it keeps a longer time without becoming musty than the finer sorts. Two kinds of Bohea are brought from China; the lowest of these is manufactured on the spot, and therefore called "Canton Bohea," being a mixture of refuse Congou with a coarse tea called Woping, the growth of the province. The better kind of Bohea comes from the district of that name in Fokien, and, having been of late esteemed equally with the lower Congou teas, has been packed in the same square chests, while the old Bohea package is of an oblong shape.

2. *Congou*, the next higher kind, is named from a corruption of the Chinese *Koong-foo*, "labor or assiduity." It formed for many years the bulk of the East-India Company's cargoes; but the quality gradually fell off, in consequence of the partial abandonment of the old system of annual contracts, by which the Chinese merchants were assured of a remunerating price for the better sorts. The consumption of Bohea in this country has of late years increased, to the diminution of Congou, and the standard of the latter has been considerably lowered. A particular variety, called *Campoi*, is so called from a corruption of the original name *Kien-peoy*, "selection—choice;" but it has ceased to be prized

in this country, from the absence of strength—a characteristic which is stated to be generally esteemed beyond delicacy of flavor.

3. *Souchong* (*seau-choong*, "small, or scarce sort"), is the finest of the stronger black teas, with a leaf that is generally entire and curly, but more young than in the coarser kinds. What is called "Padre Souchong" is packed in separate paper bundles, of about half a pound each, and is so fine as to be used almost exclusively for presents. The probability is that its use in that way by the Catholic missionaries first gave rise to the name. The finest kinds of souchong are sometimes scented with the flowers of the *Chloranthus inconspicuus*, and *Gardenia florida*; and they cannot be obtained, even among the Chinese, except at dear prices. A highly-crisped and curled leaf called *Sonchi*, has lately grown into disrepute and been much disused, in consequence of being often found to contain a ferruginous dust, which was probably not intended as a fraud, but arose from the nature of the ground, where the tea had been carelessly and dirtily packed.

4. *Pekoe* being composed mainly of the young spring buds, the gathering of these must, of course, be injurious, in some degree, to the future produce of the shrub, and this description of tea is accordingly both dear and small in quantity. With a view to preserving the fineness of flavor, the application of heat is very limited in drying the leaves, and hence it is, that pekoe is more liable to injury from keeping than any other sort of tea. There is a species of pekoe made in the green-tea country from the young buds, in like manner with the black kind; but it is so little fired that the least damp spoils it; and for this reason, as well as on account of its scarcity and high price, the hyson pekoe, as some call it, has never been brought to England. The Mandarins send it in very small canisters to each other, or to their friends, as presents, under the name of *Loong-tsing*, which is probably the name of the district where the tea is made.

Green teas may generally be divided into five denominations, which are—1. *Twankey*; 2. *Hyson skin*; 3. *Hyson*; 4. *Gunpowder*; 5. *Young Hyson*.

Twankey tea has always formed the bulk of the green teas imported into this country, being used by the retailers to mix with the finer kinds. The leaf is older, and not so much twisted and rolled as in the dearer descriptions; there is altogether less care and trouble bestowed on its preparation. It is, in fact, the Bohea of green teas; and the quantity of it brought to England has fully equalled three fourths of the whole importation of green.

Hyson Skin is so named from the original Chinese term, in which connection the *skin* means the refuse, or inferior portion of anything; in allusion, perhaps, to the hide of an animal, or the rind of fruit. In preparing the fine tea called hyson, all those leaves that are of a coarser, yellower, and less twisted or rolled appearance, are set apart and sold as the refuse or "skin tea," at a much inferior price. The whole quantity, therefore, depends on, and bears a proportion to, the whole quantity of hyson manufactured, but seldom exceeds two or

three thousand chests in all. The word *hyson* is corrupted from the Chinese name, which signifies "flourishing spring," this fine sort of tea being of course gathered in the early part of the season. Every separate leaf is twisted and rolled by hand, and it is on account of the extreme care and labor required in its preparation, that the best hyson tea is so difficult to procure, and so expensive. By way of keeping up its quality, the East-India Company used to give a premium for the two best lots annually presented to them for selection; and the tea merchants were stimulated to exertion, as much by the credit of the thing, as by the actual gain in price.

Gunpowder, as it is called, is nothing but a more carefully-picked hyson, consisting of the best rolled and roundest leaves, which give it that *granular* appearance whence it derives its name. For a similar reason, the Chinese call it *Choooca*, "pearl tea."

Young Hyson, until it was spoiled by the large demand of the Americans, was a genuine, delicate young leaf, called in the original language *Yu-tien*, "before the rains," because gathered in the early spring.

The remission of the tea duties in the United States occasioned, in the years 1832 and 1833, a demand for green teas at Canton which could not be supplied by the arrivals from the provinces.

The Americans, however, were obliged to sail with cargoes of green teas within the favorable season; they were determined to have these teas; and the Chinese were determined they should be supplied. Certain rumors being afloat concerning the manufacture of green tea from old black leaves, the writer of this became curious to ascertain the truth, and with some difficulty persuaded a Hong merchant to conduct him, accompanied by one of the inspectors, to the place where the operation was carried on. Upon reaching the opposite side of the river, and entering one of these laboratories of factitious hyson, the parties were witnesses to a strange scene.

In the first place, large quantities of black tea, which had been damaged in consequence of the floods of the previous autumn, were drying in baskets with sieve bottoms, placed over pans of charcoal. The dried leaves were then transferred in portions of a few pounds each to a great number of cast-iron pans, imbedded, in chunam or mortar, over furnaces. At each pan stood a workman stirring the tea rapidly round with his hand, having previously added a small quantity of *turmeric* in powder, which, of course, gave the leaves a yellowish or orange tinge; but they were still to be made green. For this purpose some lumps of a fine blue were produced, together with a white substance in powder, which, from the names given to them by the workmen, as well as their appearance, were known at once to be *prussian blue* and *gypsum* (sulphate of lime). These were triturated finely together with a small pestle, in such proportion as reduced the dark color of the blue to a light shade; and a quantity equal to a small tea-spoonful of the powder being added to the yellowish leaves, these were stirred as before over the fire, until the tea had taken the fine bloom color of hyson, with very much the same scent. To pre-

vent all possibility of error regarding the substances employed, samples of them, together with specimens of the leaves, in each stage of the process, were carried away from the place.

The tea was then handed in small quantities on broad shallow baskets, to a number of women and children, who carefully picked out the stalks, and coarse or uncurled leaves; and, when this had been done, it was passed in succession through sieves of different degrees of fineness. The first sifting produced what was sold as hyson skin, and the last bore the name of "young hyson." As the party did not see the intermediate step between the picking and sifting, there is reason to believe that the size of the leaves was first reduced by chopping or cutting with shears. If the tea has not highly deleterious qualities, it can only be in consequence of the coloring matter existing in a small proportion of the leaf; and the Chinese seemed quite conscious of the real character of the occupation in which they were engaged; for, on attempting to enter several other places where the same process was going on, the doors were speedily closed upon the party. Indeed, had it not been for the influence of the Hongist who conducted them, there would have been little chance of their seeing as much as they did.

CULTIVATION OF THE COMMON LOCUST TREE.¹

THE soil in which the locust (*Robinia pseudacacia*), appears to grow best, is a light and somewhat sandy loam, rich rather than poor; and to attain any considerable size, it requires much room, and an airy, but at the same time, a sheltered situation, free from the fury of the winds. It has the quality of thriving for a time on poor, shallow soils, which, no doubt, is owing to its power of rapidly abstracting whatever nourishment such soils may contain, by its large, succulent roots, that run near the surface; but after a few years it becomes stunted and unhealthy, decays at the heart, and never attains a size sufficient for any useful purpose, except for fuel.

Propagation and Culture.—The locust may readily be propagated by seeds, which may be sown as soon as they are ripe, in October, or the operation may be deferred until the March or April following. Whether they are sown in autumn or spring, however, they will come up the ensuing summer, and the plants, by the end of the season, will be fit either for transplanting into nursery lines, or to the places where they are finally to remain. The seeds, if exposed to the air two years, after being gathered, lose their power of vitality; but if they be kept in their pods, and buried a considerable depth in dry soil, they will remain good for five or six years, or perhaps longer. As seed-bearing trees seldom produce two abundant crops in succession, a reserve should be kept from one year to another. The great difficulty experienced in causing locust seeds to vegetate, operates as a discouragement with many, as they require to be prepared before sowing, in order to soften their hard and shelly pericarps, or hornlike envelopes, in which nature has deposited their germs. A writer in the "Maine Cultivator," recommends pouring water over the seeds, previously heated to the

boiling point, and suffering it gradually to cool. After twenty-four hours, to decant the water from the seeds, and select such as have opened, for immediate sowing. He also recommends another mode, and perhaps a somewhat more economical one, so far as time is concerned, which is, to subject the seeds to the action of nitric acid mixed in the proportion of half an ounce to two quarts of water. The seeds are to be steeped in this mixture for twenty-four hours before sowing, and the water kept tepid, or slightly warm, by means of an oven or stove. By this process, the perfect seeds will at once evince signs of vitality and germination, while those which remain unaffected at the end of twenty-four hours, will probably be unsound, and may be thrown away. An experiment is related in Wither's "Treatise," by the results of which, it appears that "immersion in hot water accelerates germination, but tends to destroy or injure the seeds." Mr. Loudon, in his "Arboretum Britannicum," remarks that, steeping Australia and Cape acacia seeds for twenty-four hours, in water which had been poured on them in a boiling state, or nearly so, accelerated their germination nearly two years. Great caution should be observed, however, in experiments of this kind, as even a short continuation of seeds in water at the temperature of 212° F., must of course destroy the vital principle.

The seeds should be sown in a good, free, warm soil, rather rich than otherwise, an inch or two apart every way, and covered with finely-pulverized earth, from a quarter to three quarters of an inch deep. In fine seasons, the plants will grow from two to four feet in height, the largest of which may be removed in the following autumn, to the places where they are finally to remain, and the others may be transplanted into nursery lines. In regard to the removal of the locust, Loudon observes, that "it will transplant at almost every age, and with fewer roots than almost any other tree." The trees should never be suffered to stand nearer than fifteen feet apart, in any soil, and should they be consigned to a soil thin and light, they should be planted at least twenty feet asunder. As they advance in age and growth, care should be taken to clear out all broken branches or dead wood from their tops, and to keep down their suckers, which will sometimes issue from their roots, where the soil is moist and rich. Under favorable circumstances, the plants will sometimes produce annual shoots from six to eight feet long for several years after planting; whereas, in wet or poor soils, they will not exceed one fourth of this length. After the first ten or twelve years, upon good land, the locust will probably have attained a height of fifteen or twenty feet, with a diameter of three or four inches; and then its growth, in general, becomes very slow; and few trees, at the expiration of fifty or sixty years, will be found over fifty feet in height, and one foot in diameter.

TO IMPROVE THE QUALITY OF FRUIT.—The quality of the fruit of a grafted tree is said to be improved if you graft it over with the same variety, provided your scions come from a tree whose fruit is of better quality.

REVIEW OF THE AUGUST NUMBER OF THE AGRICULTURIST.

Topping Corn.—The experiment suggested by the editor ought also to be tried as to what effect the stripping the leaves from the stalks has upon the grain, as at the south, the stalks are never cut, but "pulling blades," is done to a great extent. Many farmers depend entirely upon "blades" for winter feed, and never use hay. I fully agree with the editor, that this is a subject of vast moment to the farmers of a large portion of the United States; and if it is a fact, that topping corn does lessen the crop by "one fifth," or even one twenty-fifth, the practice ought to be abandoned at once. It is probable that one fourth of the corn crop of this country is annually stripped of its stalks or leaves, and if by so doing it deducts one fifth from the yield, it will lessen the amount a vast number of bushels. Perhaps there is no more important subject discussed in your columns than this one. The experiment will never be sufficiently well tried until some of our agricultural societies offer premiums large enough to warrant the trouble and expense of making the trial in different parts of the country, for several years. Who will be the first to move in the matter?

Green-Sand Marl.—The value and importance of this singular and but little known substance, is hardly thought of by many who are aware of its existence. In fact, its existence was known for many years before it was ever thought of as a manure. No doubt, that, hereafter, other things will, like this, be accidentally discovered to possess fertilizing properties, and that many other farms, lying along the marl belt, will, like Dr. Bartlett's, be found to possess valuable beds of this fertilizer; and it is well worth the attention of those interested, to make careful examinations. The great difficulty, however, is the want of faith among those who are equally as much interested as Dr. B., but who, unlike him, would never undertake to haul such a substance three miles to convince themselves of its value. I know men now, who laugh at the idea of hauling "green sand" for manure. It is only by the slow process of the example of such men as Dr. Bartlett, that they will finally become convinced. And some of them will not give up when they actually see the effects upon his fields. They fight against light and reason.

Adulteration of Food, No. 2.—We read the account of these adulterations, with wonder and almost incredulity. Yet are we constrained to believe, and then inquire what is the remedy? In buying a barrel of flour, we cannot stop to examine whether one fourth of the quantity is made up of "potatoes, beans, peas, Indian corn, rye, chalk, bones, powdered white flints, plaster of Paris," and I know not what other indigestible substances. If the adulteration of flour is carried on to the extent that many believe, particularly for exportation, it becomes Congress as much to look into that matter as after the adulteration of drugs. And it certainly would become our "city fathers" to devise means to prevent our buying and eating so many drugs in our bread. But there is one thing to be borne in mind in relation to mixing these drugs, or

some of them in bread—the taste of the public requires it. True, it is a vitiated taste, but yet it seems to be the prevailing one, that requires all of our wheaten loaves to be very light and white as driven snow. And for this, nutritious and healthy food is drugged till just about as fit to eat as a whitewashed sponge would be. I do most earnestly urge upon the attention of every editor to agitate the subject until a reform is effected.

Remarkable Cows.—"It is a pity that every calf from such a cow, whether male or female, could not be saved for breeders." This sentence is found in remarks upon a cow of Mr. Cumings', in an article immediately preceding the one under notice. Every friend of improvement will subscribe to the doctrine. Now let me ask if our whole system of premiums at all of our agricultural shows, is not based upon principles of a diametrical tendency from this? It appears to me that fineness of form and fatness of carcass are more likely to win favor with the dispensers of premiums, than great milk-qualities.

The Tallow Tree of China.—Is this a relation of the tallow tree of New England? [No. The "tallow tree" of Rhode Island is the *ailantus*, or "tree of heaven," so common in most of our Atlantic cities and larger class of towns, which is corrupted from *tilou*, the French name of this tree.] However, it is of no consequence. I shall not recommend the cultivation of either, because we have a much more prolific tallow tree in this country, the seed of which is usually in this latitude, planted about the 20th of May, and the crop gathered in October. The tallow is most successfully extracted from the seed, by feeding it to an animal whose progenitors are said to have come from China. "The tallow then resembles" corn-fed pork. It may also be remarked that the "candles made from this substance, in winter, have a tendency to get soft in summer," and therefore the ingenious Yankee nation have invented a process by which candles are made superior to those from any other kind of "tree tallow," namely, "stearine" or "adamantine candles."

Gutta Percha.—One of the uses of this substance not enumerated by you, and probably not generally known among those most interested, is making *gaskets*, an article well known to all steam engineers, for making steam-tight joints in steam pipes. I have been informed by engineers, that *gaskets* made of gutta percha will outlast any other substance that they have ever used. I cannot see why this species of tree cannot be grown in Florida or Texas. Shall we ever have a department in our general government, a *secretary of home affairs*, to attend to matters of far more benefit to us, as a nation, than the science of throat cutting and all the kindred accomplishments of war and carnage?

Cost and Profit of Raising Wheat and Indian Corn, &c.—I cannot go over all these statements, though I cannot help thinking that they give a false coloring. It is from such statements that novices are led into errors. The profits of farming look so flattering on paper, that many undertake it without due consideration, and their failure deters others from embarking in a pursuit, that, if judiciously managed, would afford a more comfortable subsistence than they obtain as hangers-on of a

city life. On the other hand, many a man has been tempted from a comfortable New-England home, by just such statements as that of the Hon. Mr. Henley, member of Congress from Indiana, in which he has proved by an indisputable array of figures, that the raising of wheat upon the great western prairies, only costs "twenty-five cents a bushel." Now in truth is this so? If it is, then should we all be tempted to emigrate to that Paradise of wheat growers. True, he does hint that a crop is occasionally blighted; and that "considerations contribute to swell the average expense of producing wheat on the western prairies to probably "thirty-five cents per bushel;" that is, of course delivered in market; for he gives the cost of transportation, at two dollars an acre; that is, less than 5½ cents a bushel for hauling twenty miles. His estimate of cost of harvesting and threshing is equally erroneous. As this is a very important matter, and as this error is liable to lead us, poor grubbing Yankees astray, or at least cause us to think that our lot is cast upon a soil that does not pay for cultivation, and tempt us to go where we can raise wheat so cheap, I pray you bear with me while I show this picture in another light. To enable me to do this, I have corresponded with a wheat-growing friend of mine in the neighborhood of Chicago. He thinks that the distance wheat is hauled into that immense dépôt, will average at least thirty-five miles, at a mean expense of 12½ cents a bushel. From careful examination, my friend is satisfied that, throughout all the region that sends its crop to the Chicago market, the yearly average yield of all the wheat sown, will fall below ten bushels per acre! The cost of plowing, or breaking up prairie, he says, is fairly given, and that is about the only correct item in Mr. Henley's statement. The estimated cost of growing an acre of wheat, on the Illinois prairie, then he gives as follows:—

Plowing one acre of old ground, not less than	0.75
If only decently seeded, two bushels will be used; average 75 cents	1.50
Sowing, and harrowing, at least three times over	1.00
A cradler half a day; raker and binder half a day; average wages \$1 and board	1.25
Shocking and stacking	0.75
Threshing, will average, counting all expenses, 12½ cents a bushel	1.25
Average cost of hauling to market, 12½ cents per bushel	1.25
Total	\$7.75

This is counting the yield at his estimate of ten bushels per acre. Of course, the plowing and sowing, would cost no more for a crop averaging 35 bushels, but the harvesting would, and the threshing and hauling 25 cents upon each additional bushel. What the average price of wheat in that market is, my friend does not give; but, supposing it is 75 cents, the profit would be easily counted, if all the labor was hired, to say nothing of interest on land, &c.

Cold-Water Bathing.—Cold or warm, so that the bathing was done, I should look upon as

greatly conducive to health. And I do look upon it as a duty that every city corporation owes to the inhabitants, to establish public baths. Every step taken to keep the persons of a population cleanly, is two steps towards improving their morals. No dirty population was ever one of good morals. No public improvement would be of more benefit to a large class of the population than one which would give the facilities for bathing to the working classes of all cities. No dwelling ought to be considered finished without a comfortable bath room. I have experienced so much benefit from bathing in sickness, that I am thus urgent in its recommendation.

Sheep Yard and Stables.—When the western prairies and mountainous regions of our country can boast of such as are here represented, then we shall not be pained with the account of so many sheep perishing for want of shelter.

Economy in Building Materials.—Let us examine whether it would be economy for the farmer to use stone, brick, and iron, almost exclusively in building. In most parts of the United States, buildings can be made of wood far cheaper than of any other material. I suppose that a barn built of wood, for instance, which would cost \$300, might cost \$1,000 if made of stone, brick, and iron. The interest on the excess of cost, \$700, at 7 per cent. is \$49 per annum, a sum sufficient to build a new frame barn every six years. Should it be economy to expend the \$700 in building a barn of imperishable materials, notwithstanding it might "last a century," or even untold centuries? I fully believe that iron might be economically used in some cases, for building in cities, but I doubt the economy of substituting it for wood, in farm buildings, in a country where wood is so cheap as it is in the United States. It is nevertheless true, that "farmers and others, of this country, too frequently build for temporary use." It is still more true, that those do not study economy, who, as is very often the case, "build themselves out of house and home." I fear that this would still more often be the case, if farmers generally undertook to follow the advice of Mr. Cooke, and "discontinue the use of all kinds of lumber hitherto employed in the construction of houses." Much more might be said upon this subject.

A Few Simple Facts.—This is a very erroneous head placed over a very important article. It should have been headed "A Few Very Important Facts." If facts that are calculated to save human life, are not important, I don't know what are. The writer speaks of stopping dangerous bleeding. I have often found pulverized gunpowder to be one of the best styptics ever used. One of the most ready ways to prevent the fatal effects of the poison of a snake, is immediately to suck the wound. If the person can get at it himself, suck hard and thoroughly at once, without fear. If out of reach of the mouth of the person, it is better to get a friend to do it. If the mouth is sound, no danger can possibly arise, or a little oil or lard taken in the mouth previously, would enable any person with perfect impunity to suck all the poison out of any snake bite, unless it had penetrated a large artery.

Another Fact Relating to the Potato Disease, communicated by Mr. Betts, of Newburgh, is quite

sufficient to knock down several very fine theories upon this matter. The fact is, though knocked down, I expect to see them and their advocates up and running again, for they are as hard to kill as the buffalo; for, in another article, it is said that "no animal requires so much killing as buffaloes;" but the animal that theorizes upon the potato rot, ought to have been excepted. "The buffalo invariably evinces the greatest repugnance to lie down when mortally wounded;" and so does the theorizer upon this unaccountable calamity.

American Holly Hedges.—"The American holly is the sturdiest and best armed tree in the world, and flourishes in all locations." Does it? Did the writer of this article ever see it growing in the northern part of the United States, in any degree of abundance? It may be said to be a native of New Jersey, but further north, or even in the mountain regions of the south, I think there are a few locations where it does not flourish. I think I have seen a few specimens in the vicinity of Boston, but whether natives or not, I cannot say. But one thing I can say, that is, holly hedges, will never flourish in many locations north of the home of the "South Carolinian."

Venetian, or Tanner's Sumach.—I do most cordially extend the right hand of fellowship to Mr. Prince, for the sentiment "that the first object of our country should be to render herself perfectly independent of foreign supplies of all articles which could be produced from our own soil." And it is "humiliating" to think that we should be willing to continue in such a state of ignorance, as we do, in regard to what might be made far more profitable in cultivation than the old routine of crops cultivated by ourselves and our ancestors, since the first settlement of the country. Perhaps not one in ten of the cultivators of American soil, are aware that sumach is imported into this country from Italy and other parts of Europe. I do not know, myself, how great the demand is, nor what quantity would be required to supply the consumption of the globe; but this fact I do know, that there are millions of acres of waste land in the southern states, upon which it might be grown to an extent sufficient to tan and color all the fabrics in the world. The common sumach attains a size upon the rich lands of the Yazoo, suitable to make fence rails, and for which it is often used. And the Venetian sumach might be cultivated with more profit than cotton, if the cultivators could be insured anything like the present common prices. Unfortunately for the prosperity of this country, she is wedded to the idols of importation, and "free trade" is one of the humbugs of the age.

Directions for Gathering Garden Seeds.—If these directions of "E. S." were honestly carried out, by all gardeners, we never should hear so much about the necessity of "changing seed." It is the indiscriminate planting of all manner of seeds, that is the cause of vegetables "running out." Why do we not remember and practice upon the method of Mr. Brown, in selecting Indian corn seed? Who has forgotten the anecdote of the "barrel wheat," where a man made such a great improvement and gained a great prize for seed wheat, by whipping the sheaves over a barrel to get the seed off the largest and best heads until he almost pro

duced a new variety? But I hope we are in an improving condition. "The schoolmaster is abroad" and giveth much good teachings in many papers in our blessed country, to those who cultivate the soil and should save and plant good seed.

REVIEWER.

ROUGH NOTES BY THE WAY.—No. 4.

FINDING my business likely to detain me a day or two at Philadelphia, and not relishing the heated air of that city, I took an early boat and had a delightful sail up the Delaware to the memorable old town of Burlington, in order to pass a day with my venerable friend, Captain Richard Cleveland, who published, some years since, an account of his voyages and travels in the south seas, a second edition of which is shortly to be issued from a Boston press. He and his good lady are residing with their son, H. W. S., in a beautiful cottage on a highly improved farm on the banks of the Delaware, eking out a "green old age."

Not having seen his son since quite a youth, and knowing that he had been tenderly reared and educated, I inquired of him, after witnessing his improvements on a worn-out, sterile soil, by what fortuitous circumstances he had been thrown into so delightful an occupation, upon which he related, as near as I can recollect, the following incidents of his life, which I will give to the public for the good of thousands of our young men, who know not how to employ their time:—

Until the age of 28, he had never done a day's work on a farm, and was ignorant of all rules of husbandry. He never even imagined that he had any taste for the business, having always been used to an active life, and for several years had been engaged in surveying in the wild parts of the country, living in a tent, and subject to such constant fatigue and exposure, that the hard labor of a farm, instead of being so severe, as it is generally found by men bred to more sedentary pursuits, was rather less so than he had been previously accustomed.

Having decided to make a farmer of himself, if possible, he went into the western part of Massachusetts, where he was an entire stranger, and "hired out" to one of the hard-working yeoman of county Berkshire. He told him he wanted to make himself familiar with the manual labor of a farm, and that if he would let him work for him a month he could then decide what his labor was worth, and pay him accordingly. At the end of the month, the farmer said he would give \$8, which was better than he expected. He worked the whole season at all kinds of labor, and felt at the end of it, that, instead of losing a year's time, which some of his friends told him he would do, he had gained much more than its value. He then began to look about for a farm; and, in the course of the following winter, was engaged in making enquiries and examinations, and also in studying carefully the best works he could procure on agriculture. In the spring of 1842, he purchased the farm which he now occupies. Its natural capacities were good, and some portions were in excellent condition; but much of it was light land, in consequence of which he had to incur heavy expenses, for fences and repair of buildings. In the first summer, he hired a couple of Irishmen to clean out a small pond, on his place, from which

they procured 500 loads of rich muck, or marl. This he hauled upon the hill in the rear of his farm, in the fall, and let it lie in small heaps till spring, where, by the action of the frost, it had crumbled like fallen lime. He then spread it evenly, and mixed it with the soil by a light plowing. The hill was so light that he was told, when he bought the farm, he would see it all blowing away in a high wind, and he believed nobody had previously thought of cultivating it; but after this dressing, he found no difficulty in raising 35 bushels of corn per acre, and has continued to cultivate it annually to advantage, and with manifest improvement.

He soon decided, however, that by far the most profitable use he could make of his land would be in the culture of choice fruits. Situated as it is, directly on the river, and also on the Camden and Amboy Railroad, its products may be sent to Philadelphia in an hour, and to New York in four hours. With such facilities, and such a favorable soil and climate as ours is for horticultural operations, he could not but see the advantages thus offered; and, from the first, he began planting fruit trees to such extent as his means would allow, and is gradually increasing them and diminishing his agricultural operations. He has already received sufficient evidence of the correctness of the experiment, and feels perfect confidence that the purchase of his farm was a good investment; and, for the further encouragement of such of your readers as may be deliberating upon the expediency of turning farmers, I will add that I do not know a position in life in which one could be so happy as in being actively engaged in the labors of the farm. Still, I must say, from all I have seen, I think it a dangerous experiment for any one to try, who has been accustomed entirely to a city life.

SAMUEL ALLEN.

Burlington, N. J., July 25th, 1848.

THE STRIPED BUG.

I BELIEVE most of the tillers of the earth in this section, have often suffered the loss of their melon and other vines, from the ravages of a small, active, striped bug, that destroys the young germ as soon as it appears. If any one is willing to take the trouble and expense, which is comparatively trifling, of following my plan, I think they may "beat the bugs." Make a box about three inches high and ten or twelve inches square, of strips of boards, and cover the top carefully with millinet fastened to the sides. By placing this carefully over the young plants, the bugs cannot gain entrance, and I believe, at the same time, it will assist the growth of the plants. If part of the melons or cucumbers are planted two weeks earlier, the same box may serve for both, and then, after the vines have no further need of protection, it may be stored away for another year.

Boxes of this description, which may be made by almost any one in the winter, can be made for two or three cents each. I.

Westbury, L. I., 10mo. 25th, 1848.

HOW TO BLEACH HONEY.—Dark-colored honey may be bleached by exposure in the open air for several days and nights, during cold and frosty weather.

FARMERS SHOULD WRITE FOR AGRICULTURAL JOURNALS.

As the season has arrived for the renewal of subscriptions to your journal, I would give, through your columns, some reasons why agricultural papers are not better patronized, with some of the leading objections urged against them.

The first, and probably one of the strongest objections, is, that a large proportion of farmers are averse to innovations, new plans, and systems, or in other words, of "new-fangled notions." The manufacturer and mechanic are ever on the alert, and ready to avail themselves of any improvements, inventions, or discoveries, that are made by ingenious men and learned professors. Talk to these farmers of the benefits that they may derive from the aid of science, they will look at you with an incredulous smile and ask—What do scientific men know about plowing, sowing, raising stock, &c.? Point out to them the advantages of a different mode of applying their manure, or a different system of rotation of crops, they probably will admit that it looks reasonable and right, but the "old system," the "system of their fathers" is good enough and has always supported them. Thus we have hundreds of honest, hard-working farmers, who *do* and *are* willing to trudge on in the old way. These men cannot be induced to take an agricultural paper. They say that they have not time to read; for, during the day, they are busy at work, and evenings, they are tired and sleepy; and if they read it, they say that they cannot understand the "high-flown talk" about carbon, oxygen, &c.

The second class of farmers who object to taking agricultural papers, are men who learned the art of farming in their youth—"it is their trade and they understand it thoroughly"—and they "wonder that editors of newspapers attempt to teach farmers farming." Happy souls! How enviable their condition.

We have a third class, who object, on the ground that the contributors are mainly scientific and theoretical men, or retired merchants who are known as "gentlemen farmers," without practical knowledge or experience, who support their farms, instead of their farms supporting them. Their knowledge of farming, they say, is gained by reading, and occasionally riding or walking over their farms, and publish accounts of overgrown cattle, fine sheep, and immense crops, raised at the cost of double their value, with whom the real farmers are neither willing nor able to compete. "Such farming will not answer for them, nor benefit them in any way." They have to get a living from their farms, and have no other resources to rely upon.

The first class of objectors are only to be overcome by the example of their more intelligent and enterprising neighbors. The second class of these modern Solomons and oracles of wisdom, who can learn nothing more, must be "left alone in their glory," until time and the march of improvement leaves them so far in rear that they are willing to confess their ignorance and call for light. As to the third class, the remedy is within their reach. They have the privilege equally with the amateur farmers, of contributing to agricultural journals. Then, practical farmers, at once avail yourselves of this privilege. Give us the result of

your experience and correct the evils that you complain of; if you have made any discoveries or improvements in preserving and applying manures, in raising crops, in rearing and managing stock, write out a statement and send it to Mr. Allen, or some other editor, and I doubt not, it will be thankfully received and published. Would that be book farming? All theory and no practice? To all such objectors, I say, write yourselves, and make the papers what they should be—practical journals of agriculture. No system that is not based on practical results, will ever be regarded as valuable by intelligent men. The observations and experience of many intelligent, practical farmers, who have hitherto remained silent, would be a valuable addition to our agricultural literature, and of incalculable benefit to their co-laborers. To such farmers, I say, do not withhold your contributions because you are not skilled in grammar. It is not fine writing that we want, but facts and ideas conveyed in an intelligible manner. Farmers should learn, that, by an interchange of experience and opinion through the medium of agricultural journals, they can confer mutual benefits upon each other. They should also remember that these journals are published for the dissemination of a knowledge of the best modes of making, preserving, and applying manures to different crops; the best and cheapest methods of preparing the soil; the best and most economical manner and time of seeding and harvesting particular crops; the best kinds of crops for a particular soil or climate; and the best breeds, and the best manner of feeding or managing any particular kind of stock, &c. &c.

No man can fail to perceive that these results can be best attained by educated, intelligent, and practical farmers, aided by the almost daily discoveries, by means of science. G. P. LEWIS.

Huntington, L. I., October, 1848.

EXTRACTION OF OIL FROM SUNFLOWER SEED.

I VENTURE to address you for some information with reference to sunflower seed and its manufacture into oil. I desire to know if there is any appropriate machine invented for hulling the seed; one which hulls, and separates at the same time; and what is the process of separation.

Without experimenting, I have thought that winnowing would not answer, supposing there is not difference enough, if any, between the relative weight of kernel and hull. I have seen a statement that a buckwheat hulling machine had been employed satisfactorily; but as I do not know the nature of that machine (whether it separates as it hulls), I am not disposed to try it, without more knowledge. The statement I saw, gives the result of two quarts of oil to each bushel of seed, ground up hull and all, and six quarts if the hulls are separated from the kernels. Hence the importance of removing the hulls.

What would be the cost of the machine for hulling, and a suitable press for extracting the oil? What price would the seed command to ship to your market for sale? A reply to the above from any of your correspondents will very much oblige D. DANFORTH.

Eufaula, Ga., October 10th, 1848.

COMMON ERRORS IN SCHOOL ARCHITECTURE.

UNDER this head it will be sufficient to enumerate the principal features of school houses as they are.

They are almost universally badly located, exposed to the noise, dust, and danger of the highway, unattractive, if not positively repulsive, in their external and internal appearance, and built at the least possible expense of material and labor.

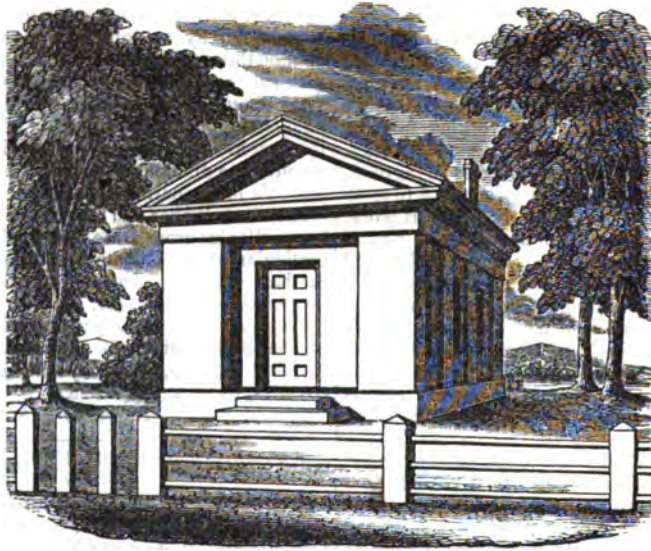
They are too small. There is no separate entry for boys and girls appropriately fitted up; no sufficient space for the convenient seating and necessary movements of the scholars; no platform, desk, nor recitation room for the teacher.

They are badly lighted. The windows are inserted on three or four sides of the room, without blinds or curtains to prevent the inconvenience and danger from cross lights, and the excess of

light falling directly on the eyes or reflected from the book, and the distracting influence of passing objects and events out of doors.

They are not properly ventilated. The purity of the atmosphere is not preserved by providing for the escape of such portions of the air as have become offensive and poisonous by the process of breathing, and by the matter which is constantly escaping from the lungs in vapor, and from the surface of the body in insensible perspiration.

They are imperfectly warmed. The rush of cold air through cracks and defects in the doors, windows, floor, and plastering is not guarded against. The air which is heated is already impure from having been breathed, and more so by noxious gases arising from the burning of floating particles of vegetable and animal matter coming in contact with the hot iron. The heat is not equally diffused, so that one portion of the school room is fre-



ELEVATION.—FIG. 88.

quently overheated, while another portion, especially the floor, is too cold.

They are not furnished with seats and desks, properly made and adjusted to each other, and arranged in such a manner as to promote the comfort and convenience of the scholars, and the easy supervision on the part of the teacher. The seats are too high and too long, with no suitable support for the back, and especially for the younger children. The desks are too high for the seats, and are either attached to the wall on three sides of the room, so that the faces of the scholars are turned from the teacher, and a portion of them at least are tempted constantly to look out at the windows—or the seats are attached to the wall on opposite sides, and the scholars sit facing each other. The aisles are not so arranged that each scholar can go to and from his seat, change his position, have access to his books, attend to his own business, be seen and

approached by the teacher, without incommoding any other.

They are not provided with blackboards, maps, clock, thermometer, and other apparatus, and fixtures, which are indispensable to a well-regulated and well-instructed school.

They are deficient in all of those in and out-door arrangements which help to promote habits of order and neatness, and cultivate delicacy of manners and refinement of feeling. There are no verdure, trees, shrubbery, nor flowers for the eye; no scrapers and mats for the feet; no hooks and shelves for cloaks and hats; no well, no sink, basin nor towels to secure cleanliness; and no places of retirement for children of either sex, when performing the most private offices of nature.

The following plans, &c., of school house, District No. 6, Windsor, Ct., are selected for representation and description, not because it is supe-

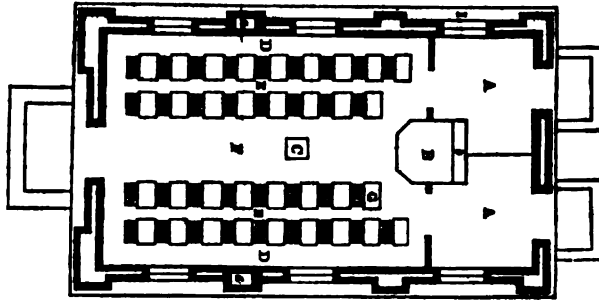
rior to all others, or is unexceptionable in every respect, but because the plan could be conveniently obtained, and in it the great principles of school architecture are observed.

The building stands 60 feet from the highway, near the centre of an elevated lot which slopes a little to the south and east. Much of the larger portion of the lot is in front, affording a pleasant play ground, while in the rear there is a woodshed, and other appropriate buildings, with separate yards for boys and girls. The walls are of brick, and are hollow, so as to save expense in securing antæ or pilasters, and to prevent dampness. This building is 33 feet 6 inches long, 21 feet 8 inches wide, and 18 feet 9 inches high from the ground to the eaves, including 2 feet base, or underpinning.

The entries A, A, one for boys and the other for girls, are in the rear of the building, through the woodshed, which, with the yard, is also divided by a partition. Each entry is 7 feet 3 inches, by 9 feet 3 inches, and is supplied with a scraper and mat for the feet, and shelves and hooks for outer garments.

The school room is 24 feet 5 inches long, by 19 feet 4 inches wide, and 15 feet 6 inches high in the clear, allowing an area of 472 feet, including the recess for the teacher's platform, and an allowance of 200 cubic feet of air to a school of thirty-six.

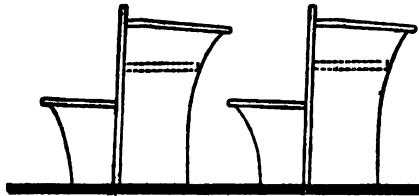
The teacher's platform B, is 5 feet 2 inches wide, by 6 feet deep, including 3 feet of recess, and 9 inches high. On it stands a table, the legs of which are set into the floor, so as to be firm, and at the same time movable, in case the platform is need-



GROUND PLAN.—FIG. 89.



TOP OF DESK.—FIG. 90.



SECTION OF SEAT AND DESK.—FIG. 91.

ed for declamation, or other exercises of the scholars. Back of the teacher is a range of shelves *b*, already supplied with a library of near 400 volumes, and a globe, outline maps, and other apparatus. On the top of the case is a clock. A black board 5 feet by 4, is suspended on weights, and steadied by a groove on each end, so as to admit of being raised and lowered by the teacher, directly in front of the bookcase, and in full view of the whole school. At the bottom of the black board is a trough to receive the chalk and the sponge, or soft cloth.

The passages D, D, are 2 feet wide, and extend round the room; E, E, are 15 inches, and allow of easy access to the seats and desks on either hand. F, is 5 feet 3 inches, and in the centre stands an open stove C, the pipe of which goes into one of the flues, *a*. The temperature is regulated by a thermometer.

Each pupil is provided with a desk G, and seat H, the front of the former, constituting the back or sup-

port of the latter, which slopes $2\frac{1}{2}$ inches in 16. The seat also inclines a little from the edge.

The seats vary in height, from $9\frac{1}{2}$ in.

to 17, the youngest children occupying those nearest the platform. The desks are 2 feet long by 18 inches wide, with a shelf beneath for books, and a groove on the back side *b* (Fig. 91) to receive a slate, with which each desk is furnished by the district. The upper surface of the desk, except 3 inches of the most distant portion, slopes 1 inch in a foot, and the edge is in the same perpendicular line with the front of the seat. The level portion of the desk has a groove running along the line of the slope *a* (fig. 90) so as to prevent pencils and pens from rolling off, and an opening *c* (fig. 90) to receive an inkstand, which is covered by a metallic lid.

The windows, I, three on the north and three on the south side, contain each 40 panes of 8 by 10

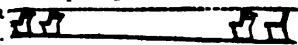


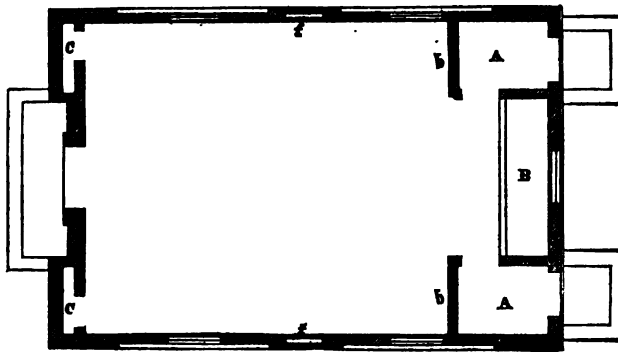
FIG. 92.

glass, are hung (both upper and lower sash) with weights so as to admit of being raised or lowered conveniently. The sills are three feet from the floor. Those on the south side are provided with curtains and blinds.

The proper ventilation of the room is provided for by the lowering of the upper sash, and by an opening 14 inches by 18, near the ceiling, into a flue (fig. 89) *a*, which leads into the open air. This opening can be enlarged, diminished, or entirely closed by a shutter controlled by a cord.



SIDE ELEVATION.—FIG. 93.



GROUND PLAN.—FIG. 94.

The sides of the room are ceiled all round with wood as high as the window sill, which, as well as the rest of the wood work of the interior, is painted to resemble oak.

The above cuts represent a modification of the Windsor plan, as prepared for a primary school in Hartford. The entries (*A, A*) are smaller. The teacher's platform is at the end, so as to overlook both yards in the rear.—*Barnard's School Architecture*.

CAUTION IN THE USE OF GLASS VESSELS.—Hot water should never be poured into glass vessels till they are moderately warmed with tepid water, as the sudden expansion of the bottom by the heat of the water has a tendency to force it from the sides. Thin vessels are better able to endure sudden extremes of heat and cold than thick ones, because they are sooner heated through their thickness, and consequently expanded equally.—*Exchange Paper*.

STRAWBERRIES AND WINE IN OHIO.

WE hear of no strawberries east, at this time, but the celebrated Scotch beehive, a single plant of which, it is said, will bear from 200 to 300 berries, and the fruit large. In letters I have written to some horticultural societies, I have ventured to pronounce this a humbug, and that the fruit would be small and about equal to your discarded Duke of Kent. When we desire fine new varieties of this fruit, experience should have taught us, that Europe was not the region to look to. They are too *larned* to know anything of this plant. They know that it belongs to a class, that is perfect in both organs, and it is time wasted to talk to them of staminate or pistillate plants. Pistillates are thrown away as barren, and only such are cultivated as are perfect in the male organs, and a portion of the blossoms perfect in both.

I have never yet met with an European gardener, who had ever noticed any difference in the character of the blossom. The beehive, I doubt not, will prove productive, but the fruit will be small. Like the Duke of Kent, it will be found to belong to a variety very rarely met with. A portion of the blossoms will be found wholly defective in male organs, and will always bear perfect fruit. The residue, perfect in stamens, and a portion perfect in the female organs, also, but some organs will be wholly defective in pistils, and bear no fruit, and a portion partially perfect in pistils, and bear defective fruit.

Mr. Jackson, last season, exhibited at our horticultural society a single plant of the Duke of Kent with 250 berries. I had a visit this evening from a gardener recently from Scotland. He informed me that no other strawberry was now thought of but the "beehive," and he had seen a plant with 240 berries on it; that he had seen a chance berry that measured *two inches in circumference*; that the famous Hovey's seedling was thrown away, as proving, in general entirely barren. Wise gardeners there! The only value of their beehive, is as an impregnator, and if they would plant a few of them in the vicinity of the Hovey, they would find it more productive than any variety they cultivate, and some of the berries on each plant would measure from $3\frac{1}{4}$ to $5\frac{1}{4}$ inches, if not more in circumference.

Our vintage is nearly over, and there is twice the quantity of wine made this season, that was made in any previous year, from our increased cultivation; though I presume the rot has on an average destroyed half the fruit. In my vineyards, the loss has been two thirds. My tenants calculated in the early part of the season, on making 25,000 gallons. Their present estimate, is 8,000. But one result surprises me. We have recently obtained German instruments to test the saccharine quality

of the lowest. The lowest in Germany, I am assured by intelligent German wine merchants, ranges from 74 to 80 degrees. Ours, this year, ranges from 80 to 97. During the fermentation of their must, the flavor of the grape is usually lost. Our Catawba wine retains its muscadine flavor and aroma, even when fermented, till it is as dry as the hock wines. This quality will give sparkling wine from it, an aroma and flavor entitling it to a preference over the champagne of France. Some vineyards escaped the rot entirely, and as much as 2,500 gallons have been made at some vineyards owned by poor Germans. N. LONGWORTH.

Cincinnati, Oct. 5th, 1848.

AGRICULTURAL BOTANY.—No. 2.

ACCORDING to my promise in the October number, I now proceed to make a few extracts from the "Observations" in Dr. Darlington's excellent work on Agricultural Botany.

Maize, or Indian Corn.—Indian corn is one of the most interesting of the gramineæ, or grass family, rivaling the sugar cane and the rice in intrinsic value, and, in the more favorable districts, ranking next in importance to wheat itself. The fresh bread made of Indian corn meal (the "pone" of Maryland and Virginia), when rightly prepared or the breakfast table, may challenge a comparison with that made from any other grain. Sugar has also been obtained from this plant, of an excellent quality, and in considerable quantity; but whether the saccharine product will warrant the culture of the plant for that object, remains to be determined. In Chester county, Pa., the Indian corn is usually the first in the routine of crops, on breaking up the lay, or sod. Oats, or barley next succeed, and then wheat, with clover and Timothy to constitute the meadow, or hay crop, for two or three years after the wheat comes off.

Kentucky Blue Grass.—This species (supposed to be a naturalized foreigner), varies considerably, in size and appearance, when growing in different soils and situations. In our best soils, the radical leaves are very long and luxuriant,—when it is known by the name of "green grass." In Kentucky, it is commonly called "blue grass," a name which properly belongs to the species *Poa compressa*.

It is the profusion of the nutritious radical leaves, which constitutes the chief excellence of this grass. It is, indeed, as Muhlenberg terms it, "*optimum pabulum*," being decidedly the most valuable of all the grasses known in our pastures. It has not been found necessary, in Pennsylvania (of later years, at least), to cultivate it, by sowing the seed; for when the land is duly prepared by lime and manure, it soon takes possession of the soil or comes in, as the farmers term it, and supersedes the artificial grasses. The prevalence, therefore, and luxuriant growth of this grass, is one of the best evidences of the land being in good condition, and well managed. In very poor land, it deteriorates so much that it would scarcely be recognized as the same plant. The slender culms, of this species, afford an excellent material for the manufacture of the finer kinds of Leghorn hats.

Spear-mint.—This pleasantly aromatic herb has been so generally introduced into all the older set-

tlements of this country, that it is now very extensively naturalized. It is deservedly popular as a domestic medicine, in relieving nausea, &c., and it is the species employed in preparing that most seductive beverage, known as the "mint julep" of Old Virginia.

Lobelia, or Indian Tobacco.—This is an acrid plant, possessing emetic, cathartic, and narcotic properties; and is somewhat notorious for the use made of it by a tribe of reckless modern empirics. It is frequent in our pastures, in the latter part of summer, and has been suspected of causing the pyralism, or slabbering of horses, so often observable at that season. I cannot, however, help doubting the correctness of the opinion; for the horse is a dainty animal in the selection of his food. I have often remarked the care and dexterity with which he separates the palatable herbage from that which is not so; and have never seen him eat, nor even crop, so acrid and offensive a weed as this lobelia. We have two species, in Pennsylvania, which are admired for the beauty of their blue and red flowers, particularly the crimson, cardinal flower (*L. cardinalis*, L.), but they are not intrusive on the farm.

Tobacco.—The extent to which this nauseous and powerfully-narcotic plant is cultivated, its commercial importance, and the modes in which it is employed to gratify the senses, constitute, altogether, one of the most remarkable traits in the history of civilized man. Were we not so practically familiar with the business, we should, doubtless, be disposed to regard the whole story of the tobacco trade, and the uses made of the herb, as an absurd and extravagant fable. In view of the facts and circumstances, it does seem like sheer affectation, on our part, to pretend to be astonished at the indulgence of the Chinese, and other Asiatics, in the use of opium. The habitual use of tobacco is always more or less injurious to the system—especially the nervous system; and in many instances it is highly deleterious. I speak from long observation, and a personal experience of many years; having smoked and chewed the herb until its pernicious effects compelled me to eschew it altogether.

Black Birch.—The timber of the birches is not particularly valuable, though some of them afford tolerable specimens of lumber, as well as good fuel. The virgate branches were famous instruments in the hands of pedagogues of the olden time in promoting good order, and a close attention to study, among the rising generation.

—"*afflictive birch*,
Curst by unletter'd idle youth."

But "the march of mind," in the present day, has rendered such auxiliaries nearly obsolete! The flexible twigs of this species, instead of being used to stimulate idle boys to learn their lessons, are chiefly employed for making coarse brooms to sweep streets and courtyards, in our cities.

The Common Plantain.—This foreigner is very generally naturalized; and is remarkable for accompanying civilized man, growing along his footpaths, and flourishing around his settlements. It is said our aborigines call it the "*white man's foot*," from this circumstance. Perhaps the generic name (*plantago*), may be expressive of a similar idea; viz., *planta*, the sole of the foot, and *ago*, to

act, or exercise. It is rather a worthless weed, but it is not much inclined to spread, or be troublesome, on farm lands. The leaves are a convenient and popular dressing for blisters, and other sores; a fact which seems to have been known in the time of Shakspeare; as we may learn from his *Romeo and Juliet*,

"*Rom.* Your plantain leaf is excellent for that.

"*Ben.* For what, I pray thee?

"*Rom.* For your broken shin."

The plantain leaf continued in vogue, for that purpose, until a substitute was furnished by modern experimenters, in their empirical attempts to regulate the national currency!

That this interesting volume of Dr. Darlington was not written for profit, but for the love of his favorite science, and the benefit of those to whom he dedicated it, we learn from a note to a discourse upon agriculture, delivered a short time after its publication, in which he casually mentions his "*Farmers' Flora*," as he chooses to call it, and then says: "I beg leave to add that I have not the slightest personal or pecuniary interest in the work, for I made a present of the manuscript to the first printer I found, who had the courage to risk the publication." A FRIEND TO FARMERS.

October, 1848.

CULTIVATION OF THE STRAWBERRY.

THE result of the following experiment, the first of the kind in that section of the country, was given at the request of the editor of the *N. Y. Farmer and Mechanic*, by Mr. C. H. Starr, of Groton, Connecticut, who has been engaged some four years in his experiments, and has succeeded in producing some strawberries of unsurpassable fineness.

The varieties raised, were Hovey's seedlings, with a few English plants as fructifiers, and were set in April, in rows three feet apart.

The soil was a moist loam, half an acre in extent, well pulverized by plowing, and manured at the rate of 20 cords to an acre, of sea weed and fish. The first year, beets, or other vegetables might be grown without detriment to the fruit.

The product from the half acre under cultivation, last season, was 2,000 quarts of fruit, some of which measured $4\frac{1}{2}$ inches in circumference.

ESTIMATED EXPENSE OF CULTURE PER ACRE.

20 cords of manure or its equivalent, . . .	\$40
Expense of plants, \$10,000 at \$2 . . .	20
Total expense of labor the first season . . .	100
<hr/>	
Total expense incurred the first year . . .	\$160
Total expense (labor only), second year . . .	160
" " " " third year . . .	160
" " " " fourth year . . .	160
<hr/>	
	\$640

VALUE OF THE CROP.

50 bushels of beets the first year . . .	\$20
4,000 quarts of strawberries the second year, . . .	
4,000 " " " " third year, . . .	
4,000 " " " " fourth year, . . .	
12,000 quarts of strawberries in all, at 12 cts. . .	1,440

Total value of the crop for four years, \$1,460

Leaving a net gain for four years of . . . 820
Or for each year, . . . \$205

The above is simply what has been done in the ordinary culture, without any particular effort or extra exertion, and we have no doubt the crop could be still further increased by improving the variety, and with a better opportunity of selecting the soil and varying somewhat the kind of manure.

PLANTING TREES.—Trees should be transplanted in the autumn. The reason is this: Nature never does two opposite things at the same time; thus, when she is busied about the roots of a tree, she neglects the stem, and reversely. Since, therefore, in the autumn, she is employed on the roots, and, in the spring, on the stem, it is evident that autumn is the best time for transferring the roots from one place to another, just after the fall of the leaf. If, however, the soil to which a tree is to be transplanted is wet, early spring, just before the buds begin to swell, is the best time for transplanting—*Geoponica*.

TWO-HORSE WAGONS.



TWO-HORSE WAGON.—FIG. 95.

THESE are constructed with light, broad bodies, and will carry, on a good road, from two tons to two tons and a half of grain, or salt in bags, and will load well with hay or straw. The bodies are mounted on patent iron axles, and elliptical steel springs. They are designed for working two horses together in pairs, for market and farm use, and may be driven with ease, when loaded, at a speed of four or five miles per hour. Prices, \$75 to \$125 complete.

DECAY OF TIMBER.—The durability of the oak is proverbial; yet how many instances are there on record of ship's timbers having been found rotten, or unsound, so as to require replacement, even before the vessel could be launched. Other oaken timbers, of the same size, similarly situated, have served at sea for more than half a century; then been sold as old ship timber, and set up as land posts, where they still remain almost as hard as bone.

Ladies' Department.

TREATMENT OF ROSE BUSHES.

ROSE BUSHES require a very rich earth, and the gardeners of Europe direct them to be removed, or the soil about their roots changed once in every three or four years. Experience in this country proves that we may have ever-blooming roses in perfection, without this trouble, as it is only necessary to renew the exhausted fertility of the soil, which can readily be done by using the following liquid manure:—

Into a common-sized barrel, put about half a bushel of cow manure (not fresh), and fill it to the top with water; stir well, and let it stand twenty-four hours; then take equal parts of this liquid and clear water, and pour it around, and over, but not on the roots of the rose bushes. When the barrel is empty, fill it again with water, which may be used without diluting. Do this regularly once in three or four weeks, taking care, when possible, to apply it just before, or during a rain, in order that it may sink still more diluted, directly to the roots, or it will form a crust on the surface and injure them.

Soap suds is also a mild and excellent fertilizer to apply to delicate plants, but is apt to be unsightly by the white crust it makes on the surface, unless the earth is stirred with a trowel, to let it sink into the soil.

Both of the above are valuable in the vegetable garden; also, for cabbage and egg plants, artichokes, &c.

E. S.

Eutawah.

AN ATTEMPT AT HOUSEKEEPING.

OLD LADY'S DIARY.—I have just returned from my long-promised visit to my old friend M^{rs}, whose plain good sense, shown in every department of life, has often surprised and delighted me. I was, therefore, unprepared to find her daughters, who had no pains spared in their education, so deficient in that important branch, housekeeping. Her eldest, a lovely girl, who, while living under her mother's roof, delighted every one with her sprightly temper and amiable deportment, as well as by the cultivation of her mind, has married, and settled on a farm. Her first letter arrived to-day, containing so much instruction for my young people, that I have obtained leave to copy it, which reads as follows:—

I have no words to express to you, my dear mother, how I miss you all day long. You are the earliest thought at my waking, my last at night. I miss your cheerful call at the morning's dawn, and so often oversleep the hour, and then the house arrangements go wrong all the rest of the day.

The first week after our arrival, was spent in unpacking the furniture and arranging the house. So you suppose that no one was very particular about the luxuries of the table. We ate what we could get with the least trouble, and solaced ourselves with laughing over all our difficulties and discomforts, which, by the by, were greatly increased for want of a little of your forethought; for instance, I now remember that you would not

have unpacked the furniture and china, before the rooms and closets were ready to receive them in their proper places, and so have saved much unnecessary lifting and disorder. But, notwithstanding all this, I do flatter myself that all your good instructions and examples have not been thrown away. Although my house is arranged in a manner that would please even your critical eye, there is one thing however in which I am doubtful, I have my storeroom up stairs; but as my women are not so thoughtful as they might be, I fear I shall find it inconvenient to mount so high for everything that is called for. Indeed, I already long for the dear old storeroom at home, so near the kitchen that it is no trouble to get to it. I now begin to realize what you have so often told me, that I must give personal attention to all the different departments throughout the house, be they agreeable or not. You know that I never liked cooking and that your indulgent love always spared me from the disagreeable task; but sorely do I now grieve that you did not enforce your advice, and oblige me to perform the disagreeable, though necessary duty. Poor Charles never even looks a reproach, but appears to be amused at all my difficulties, turning them into ridicule, and saying, with a comic shake of the head, "What would your mother say to our cooking? No matter, we will do better in time." Dear Charles, I wonder what he has to do with my mistakes, or our uncomfortable dinners; for sure I am that the provisions are all that could be desired. Would that I could say as much for the cooking.

A few days ago, some of my neighbors hearing that I was now settled in my new home, came to welcome me in the neighborhood, as they call it; though they live so far off, it was impossible for them to return before dinner. I was delighted to see them, and Charles came out of the field to do all in his power to assist me to entertain them. The best ham was selected, and we were fortunate in being able to procure fresh beef from the next farm. Our garden has succeeded admirably under Charles' good care. So we had plenty of vegetables. I was aware that Jane knew but little of cooking, but she professed to be quite equal to the dinner I had provided, and I made myself easy as to the result. My new friends are agreeable, pleasant people, and I soon forgot, in their delightful society, that I was a housekeeper, and that all the responsibility of the dinner really rested on me. Dinner hour arrived, but not so dinner. I wondered, and Charles looked, but we said nothing, hoping that all was right, and that it would soon appear. An hour passed, and I began to be uneasy, and then visited the kitchen. A thousand excuses were made, with many assurances that all was doing well, and we would not have long to wait; I returned to the parlor. Charles was uneasy, as he had business in the field, but it could not be helped. Another hour passed, and another. What could be the matter? Again I visited the kitchen; all was in confusion; the beef was not half done, the potatoes had all boiled to peices, and the beans were sailing in a large pot of water in the chimney corner, some distance from the fire. I saw then, what I should have known before, that my personal attention was necessary where there was so

ignorant a cook, and, alas! I felt I was little better; but I began to arrange matters as I best could. The ham was the first to be dished. Imagine my consternation on looking into the pot, where I found it had boiled to fragments. It had been put on to simmer, according to your directions, early in the morning, and had been boiling all day. How shall we get it out of the pot?" asked Jane. "Strain it through a colander," said a saucy boy, who stood enjoying our perplexity. It was a good hint, however, and we followed his advice, both with the ham and beans, which otherwise eluded our lades when we attempted to catch them, as if they had been things of life.

At length, all was safely landed on the table, much to the amusement of our guests, who, good-naturedly, laughed *with*, not *at* us, and relieved my embarrassment by relating their first experience in housekeeping. I had attended to the desert myself, and it was really good—all but an unfortunate apple island, that looked much more like a solid continent than I could have desired; but thanks to the long delay, we were too hungry to be over particular, and the dinner passed off right merrily. So, dear mother, do pray join in the laugh, and don't look so sad; don't shake your head so reproachfully, as if you were going to say, "Ah! Fanny, Fanny, I thought this would be the way." Do, dear mother, look up and give me one of your bright smiles, and I will promise to give a better account of my next.

FANNY.

HOW TO TAKE OIL FROM PAPER.—Rub gently, and press with blotting paper till all the oil on the surface is removed; then cover the spots with powdered magnesia, French chalk, or any other white absorbent—such as Wilmington clay, "grease bulls," &c. Put soft paper over this, and turn the other side of the oil spot up, and cover that in like manner; lay it under a light press for a few hours, and then scrape off the chalk, which will be saturated with oil; and repeat the process until it has all been absorbed; then rub it gently with a cambric handkerchief so as to remove the dust and stain. Three or four applications will generally be found sufficient.

Boys' Department.

ANECDOTES OF ANIMALS.—No. 4.

Animal Instinct.—The following curious instance of sagacity in a field mouse occurred on a farm near my residence, and displays so much of what, in man, would be called reason, that to me it seems unfair to deny to animals so acting, a measure of that noble attribute; if, by reason, as distinguished from instinct, we mean the power of deducing consequences from premises. Instinct teaches one mouse to make her nest, and find her food, as all other mice have done, since their habits were noticed by reasoning man; but perhaps no other mouse ever did, nor ever will, follow the dictates of reason in avoiding danger as this one did.

Late last summer, a young man, while engaged in removing a log in the woods, observed a field mouse in her nest, which seemed to be asleep. Surprised at seeing her remain so quiet when so roughly disturbed, he stopped to look more closely,

when she started away much frightened and ran up a neighboring oak tree. On examining the nest, he found five half-grown young ones. Supposing the mother would return to take care of them, if left unmolested, and feeling sorry for her fright, he went to work in another part of the wood, and remained at a distance for a considerable time. When he came to the place again, he gave another look at the nest, and finding but three little ones, he supposed that he had counted wrong at first. On resuming his work, he saw the mother descend a majestic chestnut not far from the oak he had seen her ascend, and go towards her nest. This excited his curiosity, and he sat down on a log not far from the spot, to watch her motions. She went to her nest, took a young one in her mouth as a cat does a kitten, and ran up the oak to about half its height, crept cautiously and slowly to the end of one of the largest branches, from whence she gained the chestnut, where the boughs interlaced each other. The latter tree, which was about sixty feet high, she winded up till she came near the top, and disappeared in a deserted crow's nest. Presently she came down, took up another young one, and repeated this perilous and laborious journey until she had deposited the whole five safely in this strangely-selected, aerial habitation, where neither man nor beast would be likely to disturb them.

Eutawah.

E. S.

SAGACIOUS HORSE.

A FARMER whose sayings and doings I have often quoted, though I dare not give his name, had some years ago, an old horse, known by the name of "Yellow Ned," being past work, was turned out to enjoy the remainder of his useful life, in the best pastures, as his master very justly thought some reward was due for his long and faithful services. He was a pet with all the children of the household, and so docile, that the most timid child used to trot about on his back without saddle or bridle. Among other odd fancies, he was extravagantly fond of apples; and besides shaking the small trees, he would adopt various expedients to obtain them.

Among others, the following was of frequent occurrence:—The children often plucked apples for him, as they rode through the orchard, which no doubt first put the thought into his head; but whether so or not, the fact is the same. He would come to the horse block, and whinny; if not noticed, he would put his head over the fence, and express great impatience. The children loved to indulge their old favorite, so one, or sometimes two of them would climb upon his back, when he would pace off to the nearest apple tree whose fruit he could not reach, and wait while they gathered for him as many as he chose to eat. Once, when two were on his back, they attempted to cheat him, by eating the fruit, and filling the boy's pockets, and the little girl's apron. He waited at first, as if to know what it meant; then walked quietly to a stream that ran through the corner of the field, stopped in the deepest place, stooped to drink as usual, and then gently lay down with his little burden in the water. The children shouted with laughter, and gave him their ill-gotten treasure; and never tried to cheat "Yellow Ned" again.

E. S.

AGRICULTURAL CHEMISTRY.—No. 8.

I WILL here repeat the names of those elements belonging to the soil, with which I promised to acquaint you in this letter. They are potassium, sodium, magnesium, calcium, chlorine, iodine, bromine, manganese, phosphorus, and silicon. You recollect I told you that there are but sixteen elements that enter into the composition of vegetables; with the remaining six, viz. oxygen, hydrogen, nitrogen, carbon, iron, and sulphur, you are already familiar.

Potassium is a metallic substance, of a white and brilliant appearance, but soft as wax, and lighter than water. When exposed to the air, it attracts oxygen very rapidly, and this union of potassium and oxygen forms the well known alkali, potash. When a piece of potassium is thrown on water, it attracts the oxygen of the water with such rapidity as to become ignited, and burns with a white flame while swimming on its surface. Potassium and oxygen combine in two proportions; the one containing the lesser portion of oxygen is called the *protoxide*, the other the *peroxide* of potassium. The prefix, *pro*, to any of the oxides, denotes the lowest proportion of oxygen, or degree of oxidation, and *per*, the highest which they contain. Potash is an important ingredient in the potato vine, grape vine, corn stalk, and most other trees and plants.

Sodium is another metallic substance, uniting readily with oxygen, and forming the alkali called soda. These two alkalies (potash and soda), are found in almost every vegetable, and their presence is consequently necessary to the fertility of every soil. Sodium also unites with oxygen in two proportions, forming a protoxide and peroxide of sodium. The protoxide is the soda of commerce, and this, combined with muriatic acid, forms our common table salt, the chemical names for which are muriate, or hydrochlorate of soda.

Magnesium is a white metal, and bright like silver. It also unites readily with oxygen, and the protoxide forms the magnesia of commerce. This also possesses slight alkaline properties, and unites with some of the acids, forming various saline compounds. Epsom salts is a combination of magnesia with sulphuric acid, and its chemical name is therefore sulphate of magnesia.

Calcium is a brilliant white metal, which, when united with oxygen, produces lime; quicklime is, therefore, an oxide of calcium. Lime is a very important agent in every soil, and I will speak of it more particularly hereafter. It possesses a strong affinity for carbonic acid, which it absorbs from the atmosphere, forming a carbonate of lime. Chalk and marble are both composed of lime and carbonic acid. In its pure state, lime combines readily with nearly every acid, forming a multitude of salts. Combined with sulphuric acid, it forms gypsum, or plaster of Paris, the chemical name for which is sulphate of lime.

Chlorine is a green-colored and poisonous gas, and is never found in nature except in combination. United with hydrogen, it forms muriatic acid; combined with mercury in one proportion, it forms calomel; another proportion of chlorine changes the calomel to corrosive sublimate, or bichloride of mercury, a most deadly poison. The combinations of chlorine with the metals are called chlorides.

Iodine is of a black color, and when uncombined is in the form of small, shining scales, which are changed by a high degree of heat into a beautiful violet vapor. Its combination with metals are called iodides.

Bromine is a fluid, possessing an offensive odor, and having properties similar to iodine. It has been considerably used of late years in the process of taking Daguerreotype likenesses. Chlorine, iodine, and bromine, are only found in such plants as grow along the sea shore, or in salt marshes, and are consequently of little importance to the agricultural chemist.

Manganese is a black mineral, always found in nature in connexion with iron, and having properties similar to those of iron. It unites with oxygen in two proportions, and its protoxide forms a number of salts, some of which are occasionally found in the ashes of plants, and are supposed to answer as a substitute for iron.

Phosphorus is a light, inflammable solid, colorless when perfectly pure, and insoluble in water. It is an important constituent in bones, from which it is obtained for various uses in the arts. As its presence is always necessary for the production of seeds, it is an essential ingredient in all our cultivated plants. It combines with oxygen, forming phosphoric acid, and this, combined with metallic bases, forms a large group of salts called phosphates.

Silicon is a substance resembling charcoal, and but little known in its pure state. It is the base of silicic acid, called also silica and silex; this is pure sand, though possessing chemical properties which give it a place among the acids. Its compounds with soda, potash, &c., are called silicates. The presence of rushes indicates an abundance of silica in the soil where they grow. It is a very important agent in the production of some of our most common plants.

You may be curious to know how iron, and some of the other minerals which I have described, can ever enter into, and become a part of any vegetable. Although this is not the place for showing how plants obtain their food from the soil, yet I may as well here inform you that these solid substances usually combine with certain acids which are present, and from salts, which are either dissolved by water, or some other agent, and then imbibed by the roots of the plant in the same manner as water itself. When the ashes of any vegetable are analysed, some of these metals are always found in the form of salts.

J. MCKINSTRY.

Greenport, Columbia Co., }
Nov. 1st, 1848.

FACTS IN FARMING.—The more dung, the heavier green crops; the more green crops, the more cattle food; the more cattle, the more dung. Hence, by keeping an abundance of cattle, a farm can be improved from year to year.

COMPARISON OF MANURES.—The manure of a horse may nearly equal that of a cow, setting quality against quality; and that made by two or three pigs may be equal in value to that of an ox.

FOREIGN AGRICULTURAL NEWS.

By the Steamer Acadia we are in receipt of our foreign journals to November 4th.

MARKETS.—*Ashes*, in fair request. *Cotton*, an advance of $\frac{1}{4}$ d. to $\frac{1}{4}$ d. per lb. *Grain and Flour*, a trifle lower. *Provisions* the same.

American Provisions for the English Market.—We copy from our European correspondent the following excellent observations on the method of putting up beef and pork for the English Market:—

Beef.—The quality of the best brands of American beef are much approved of. The desirable points being to have the color a bright pink, the pickle clear, with a good capping of Turks Island or other coarse salt; the coarse pieces, necks, shanks, &c., as scarce, and the meat as fat as possible; in addition to all these, the weight (marked on the cask), correctly put into every tierce.

Pork.—A really good article of "prime mess pork" cut into four pound pieces from hogs not exceeding 180 to 200 lbs., cured only in pickle, to be of a bright pink color, packed with clean clear pickle, and with a good capping of coarse salt, will always find a ready sale. Mess pork, or stripes, is a waste of material that should be put into bacon. Prime pork the same to a less extent. The heads, or jowls, will sell here when alone for as much money as the prime pork.

The Best Breed of Sheep.—Let it be assumed that the best breed of sheep is that which produces the greatest net profit in money from a given quantity of food.—*Agricultural Gazette.*

Winter Management of Calves.—Let them have plenty of good hay and roots, with chopped straw and linseed, a quarter of a pint to a quart of water, put into a jar, or saucepan, and placed on the hearth on hot ashes; in the morning it will be done but not burnt. Should calves scour during the year, I give in balls one table spoonful of Epsom salts, two of flour, and two of whitening, or chalk.—*Anon.*

Bull Fight.—At Ashton Keynes, a two-year-old stock bull and a fat bull stag, furiously attacked each other, and fought until the latter dropped dead, covered with wounds. It was with the greatest difficulty that the victor was removed from the dead body of his fallen foe. The latter weighed 300 lbs. per quarter.

Lime a Means of Preventing Plant Wounds from Bleeding.—This year, I saved some fine pelargoniums from bleeding to death, after being cut down, by dusting slacked lime over the wound. It might have the effect of preserving other plants under similar circumstances.—*Gardeners' Chronicle.*

Influence of Night Temperature on Plants.—Every gardener who pretends to an acquaintance with his profession is now aware of the prejudicial effect of high night temperature. We have repeatedly pressed the subject on his attention; we have shown that in countries, called hot, the thermometer often falls low during the night, and that, to the vine in particular, night cold is indispensable and always provided by nature where grapes are finest. The well-known formation of ice near Calcutta, although brought about by slightly artificial means, is in itself a beacon to guide the gardener who reflects. In short, the kind of periodical rest which a low nocturnal temperature secures to plants is undoubtedly as necessary to them as sleep to animals; it may be broken for a short time with impunity, but it must be provided eventually, and the greater the regularity of it the better the health of the individual.—*English Paper.*

Advice in Poultry Keeping.—The principles upon which I rely for success in keeping hens, are 1, to have two breeds—a few to hatch and rear the chickens, and twice the number of everlasting layers, as eggs are more profitable than chickens; 2, to get a hatch as early as possible in spring, and to keep them well; these never cast their feathers like the old birds,

and if they begin to lay in autumn, lay more or less all winter; 3, never to keep old fowls (none but favorite fowls ought to be kept more than two years); old birds lay larger eggs than pullets, but not nearly so many; 4, to give them the best barley I could get, and as much as they could pick up once a day, in summer, and twice in winter; they are not only more profitable, well kept, but the eggs are better. The two breeds I like best are the spotted Dorkings for sitting, and the pheasant breed for laying.—*Agricultural Gazette.*

Prize Gooseberries.—The following are the names and weights of four of each color of the gooseberries standing highest on the prize lists of the Gooseberry Shows held at Lancashire, Cheshire, and other parts of the United Kingdom, in the year 1848:—

Red.	Weight of Heaviest Berry	
	dwts.	grs.
London	31	19
Companion	28	3
Wonderful	30	18
Lion	25	4
Yellow.		
Catherina	30	15
Leader	24	20
Drill	25	12
Pilot	25	0
Green.		
Thumper	30	9
Peacock	24	15
Turnout	23	19
Overall	24	0
White.		
Freedom	28	1
Eagle	22	19
Lady Leicester	24	13
Tally Ho	22	21

Important Enterprise in the Island of Cuba.—The "Junta Fomento," or Board of Agriculture and Improvements of the island of Cuba, have recently made considerable purchases of such articles and stock, as are calculated to improve and render more profitable, the agricultural interests of that valuable territory. The purchases have been made in this country by their highly intelligent and accomplished commissioner, Señor Don José Maria de la Torre. The animals consist of several cattle of the Short-Horn, Devon, and Hereford breeds; Cotswold and Southdown sheep; swine of four different breeds; and poultry of various kinds. Among other articles introduced, are several implements and machines of the latest improvement, and a choice variety of seeds for field and horticultural purposes. This enterprise, if properly carried out, must have the happiest effect in developing the resources of the island, and in advancing the interests of all parties concerned.

Insects in Wheat.—The mode of dressing seed wheat, practised by hundreds of farmers in the neighborhood of Ipswich, Eng., is to wet the seed by various modes and *dust arsenic on the dry heap*, out of the paper it is done up with by the chemist, whilst another turns the heap over. A half bushel of lime is first emptied into a half-hogshead tub a week or two before seed time, to which is added the drainings from the cattle yards, sufficient to cover the wheat when dipped; the wheat is then stirred in a basket, or skep, skimmed and turned on the floor. When the seed is wetted, it is dusted with dry powdered arsenic, which is sprinkled on and mixed with the wheat. It is then swept and rounded up into a heap and left over night. The liquor in the tub, is about as thick as bricklayer's lime wash for walls.

A quarter of a pound of arsenic is sufficient for dressing four bushels of wheat, which costs less than a cent per bushel. The spent lime is worth its cost as manure. It may be thought that the skep should be sunk in the liquor, and the wheat slowly poured in, to cause the light grains to float; but an extra stirring will rectify this. If two persons are employed, of course one may sink the skep, and dust on the arsenic on every skeptical shot on the floor, whilst the other stirs and skims the wheat.

Editor's Table.

REMOVAL.—Our readers are informed that the office of publication of the *American Agriculturist* is removed to 121 Fulton street, New York, where a large and complete assortment of agricultural publications may be found, which will be sold at the lowest cash prices, by C. M. Saxton.

GOLD MEDAL.—A. B. Allen & Co., of 189 and 191 Water street, New York, were awarded a gold medal for exhibiting the best and greatest variety of Agricultural Implements, at the late annual fair of the American Institute.

DEATH OF T. B. WAKEMAN.—It is with much regret we announce the decease of Thaddeus B. Wakeman, Esq. He died at his residence, in this city, on the 7th inst., after a protracted illness of several months. Mr. W. was a native of Connecticut, but for a large part of his life, has resided in New York. He has been connected with the American Institute since its commencement, twenty-one years, during all of which time, he has held the responsible office of Corresponding Secretary. The success of this institution under the many discouragements it has had to encounter, is his best and a sufficient eulogy.

SCIENTIFIC AGRICULTURE; or the Elements of Chemistry, Geology, Botany, and Meteorology, &c., by M. M. Rodgers, M.D. Illustrated by Engravings. Rochester: Erastus Darrow. 12mo. pp. 279. In hastily looking over this little work we have been rather favorably impressed; and were not the country already flooded with similar publications, we should hope the author would be rewarded for his pains.

THE BREEDS, MANAGEMENT, STRUCTURE, AND DISEASES OF SHEEP, with Illustrative Engravings, by H. J. Canfield. Salem, Ohio: Aaron Hinchman, 12mo. pp. 580. This is a very good compilation of the subject treated on, made from various authors, some of which are duly credited, others not. Among others largely drawn from, we notice much from our own pages, transferred without comment or quotation marks of any kind whatever. Although we conceive this adds to, rather than detracts from, the merits of the work, we are not at liberty to draw the same inference as to the merits of the author, who was bound by all fairness and honorable dealing to have given us due credit for his ample extracts.

BEST KINDS OF STRAWBERRIES FOR CULTIVATION.—An experienced fruit grower writes us that after trying thirty of the best and most popular modern varieties of strawberries, he has come to the conclusion that but four varieties are worth cultivating on the light sandy lands of Monmouth county, New Jersey. These are Hovey's seedling, the Boston pine, large early scarlet, and the crimson pone, or Scotch pine.

WINE IN OHIO.—The amount of wine already made this year in the neighborhood of Herman, is about 6,000 gallons. It is worth on an average \$1.25 per gallon.

MAMMOTH PUMPKIN.—We were shown yesterday a pumpkin grown by Mr. Jas. Smith, of Harrison county, Indiana, that weighed 171 pounds, and is upwards of six feet in circumference.—*Low. Cour.*

TWO CROPS OF RASPBERRIES THE SAME YEAR.—Mr. Wm. E. Lyman, picked upward of half a pint of raspberries from his garden in this city, the past week, being the second crop of this year's growth. The berries were of fine size and flavor.—*Buffalo Commercial.*

INTRODUCTION OF THE TEA PLANT INTO THE UNITED STATES.—It will be gratifying for our readers to learn that several cases of black and green-tea plants, of Chinese stock, have just arrived from London, in the ship American Eagle, selected and imported

by Dr. Junius Smith, of this city. The packages contain some 500 plants of from five to seven years' growth, and are designed for the formation of plantations in the mountainous parts of Georgia and the Carolinas.

We also understand that a small quantity of tea seed was lately brought to this country by Dr. S., in the steamer Britannia, which he received in London, overland, from the northwest provinces of India, for the purpose of sowing on plantations at the south. More plants and seed are expected from India and China, this season, and if we may judge from the progress already made, we have now the means in hand of extending tea plantations throughout such sections of our country as may be found adapted to its culture.

SERIOUS LOSS BY FIRE.—We regret to notice the destruction by fire, on October 29th, of the office, papers, stereotype plates, and several thousand volumes of the *Cultivator* in Albany. This is a loss of no little magnitude, and one that can hardly be estimated by dollars and cents. We sincerely trust, so far as repairable by the latter, the publisher's loss may be amply made up by an increased list of paying subscribers.

The agricultural implement warehouse of Mr. Emery, in the same building, was also destroyed, with several thousand dollars' worth of tools. The sympathies of the public, and the energies of both the above parties, will soon, we hope, reinstate them in their former prosperous career.

ANALYSIS OF THE COTTON PLANT AND SEED, with Suggestions as to Manures, &c., by Thomas J. Summer, Columbia, S. C.: Allen, McCarter & Co. This work consists of a small pamphlet of some 16 pages, giving the modus operandi and results of the author in his analyses of the cotton plant and seed, the percentage of the constituents of which are as follows:—

100 parts of the ash of the cotton plant gave	
Silicic acid,	6.50
Sand and coal,	10.04
Oxide of iron,	8.20
Oxide of lime,	17.66
Oxide of magnesia,	5.33
Sulphuric acid,	1.31
Phosphoric acid,	13.37
Potassa,	22.01
Soda,	0.99
Chloride of sodium,	0.05
Carbonic acid,	15.72
	101.19

100 parts of the ash of cotton seed gave	
Phosphoric acid,	35.43
Oxide of iron,	3.43
Coal,	1.05
Sulphuric acid,	3.19
Oxide of lime,	10.88
Oxide of magnesia,	10.61
Potassa,	27.82
Soda,	2.75
Silicic acid,	trace.
Loss and chlorine,	4.84
	100.00

TO MAKE FROG SOUP.—Wash the thighs and backs of fifty frogs; put them into a pot with water enough for soup, together with carrots, leeks, turnips, parsnips, a little celery, a burnt onion, and a good piece of butter; let them boil gently for four or five hours and serve them as *bouillon gras*.

Voulez vous de frog soup?

Mercie, Monsieur, j'ai beau coup.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, NOVEMBER 22, 1848.

ASHES, Pots,	per 100 lbs.	\$5 87	to	\$6 00
Pearls,	do.	6 12	"	6 19
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton	26 00	"	26 00
BEANS, White,	bush.	75	"	1 25
BEESWAX, Am. Yellow,	lb.	19	"	22
BOLT ROPE,	do.	11	"	12 1/2
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite, 2,000 lbs.	do.	4 50	"	5 50
CORDAGE, American,	lb.	10	"	12
COTTON,	do.	5	"	9
COTTON BAGGING, Amor. hemp,	yard	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	do.	5 25	"	5 87
Finney,	do.	6 00	"	6 50
Richmond City Mills,	do.	7 00	"	7 25
Back wheat,	do.	—	"	—
do.,	do.	8 12	"	4 25
GRAIN—Wheat, Western,	bush.	1 10	"	1 31
Red and Mixed,	do.	95	"	1 10
Rye,	do.	65	"	67
Corn, Northern,	do.	65	"	74
Southern,	do.	65	"	70
Barley,	do.	62	"	65
Oats,	do.	27	"	36
GUANO, Peruvian, 2,000 lbs.	do.	50 00	"	50 00
Patagonian,	do.	35 00	"	40 00
HAY, in bales,	do.	45	"	50
HEMP, Russia, clean,	ton	195 00	"	200 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	8	"	12
HOPS,	lb.	4	"	4
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 06	"	4 12
Pipes for Pumps, &c.	lb.	5	"	7
MEAL, Corn,	bbl.	8 12	"	3 35
Corn,	hhd.	12 50	"	13 00
MOLASSES, New Orleans,	gal.	23	"	25
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	9 00	"	2 25
Fitch,	do.	1 25	"	1 75
Rosin,	do.	1 19	"	1 25
Turpentine,	do.	9 50	"	3 00
Spirits Turpentine, Southern,	gal.	51	"	53
OIL, Linseed, American,	do.	1 25	"	1 50
Castor,	do.	45	"	70
Lard,	do.	65	"	75
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	75	"	1 25
Black eyed, 2	do.	1 25	"	1 30
PLASTER OF PARIS,	ton.	1 12	"	1 25
Ground, in bbls.	of 300 lbs.	9 00	"	13 50
PROVISIONS—Beef, Mess,	bbl.	5 00	"	7 50
Prime,	do.	6	"	12
Smoked,	lb.	4	"	6
Rounds, in pickle,	do.	4	"	6
Fork, Mess,	bbl.	9 75	"	13 00
Prime,	do.	7 00	"	10 00
Lard,	lb.	8	"	9 1/2
Bacon sides, Smoked,	do.	3	"	4 1/2
In pickle,	do.	3	"	4
Hams, Smoked,	do.	5	"	9
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	4	"	5
Pickled,	do.	3	"	4
RICE,	100 lbs.	3 00	"	4 00
SALT,	sack.	1 25	"	1 45
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	5	"	7
Timothy,	bush.	2 00	"	3 50
Flax, clean,	do.	1 30	"	1 40
rough,	do.	1 20	"	1 22
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	4	"	6
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2 1/2	"	7
WHISKY, American,	gal.	23	"	25
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	25	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

NEW YORK RETAIL PROVISION MARKET.

Meats.—Beef, from 6 to 14 cents per lb.; Veal, 7 to 12 cents; Lamb, 5 to 9 cents; Mutton, 6 to 10 cents; Pork and Sausages, 9 to 10 cents; Ham and Bacon, 8 to 12 cents; Beeves' Tongues, 42 to 68 cents each; Young Pigs, \$1 to \$1.35 each.

Fish, &c.—Striped Bass, from 8 to 10 cents per lb.; Codfish, 3 to 4 cents; Haddock, 5 to 6 cents; Black Fish, 8 cents; Flounders, 5 cents; Eels, 8 to 10 cents; Pike, 13 cents; White and Yellow Perch, 8 cents; Smelts, 12 cents; Lobsters, 6 cents; Crabs (hard-shelled), 25 cents per dozen; Oysters, 50 cents to \$1.25 per 100; Clams, 37 to 75 cents per 100.

Poultry, Eggs, and Game.—Turkeys, from 87 cents to \$1.25 each; Wild Turkeys, \$2 to \$2.50; Geese, 37 cents to \$1.50; Wild Geese, 87 cents to \$1.12; Ducks, (domestic), 60 cents to \$1 per pair; Ducks (canva-backed), \$1.50 to \$2; Ducks, (wild), 37 to 62 cents; Brant Ducks, 75 cents; Teal and Widgeons, 37 to 50 cents; Chickens, 37 cents to \$1; Partridges, 62 to 75 cents; Guinea Fowls, 50 cents to \$1; Capons, 15 to 18 cents per lb.; Woodcocks, 50 to 62 cents per brace; Pigeons, \$1.25 to \$1.50 per doz; Quails, \$1 to \$1.50; Robbuis, 47 to 50 cents; Rabbit, 12 cents each; Grey Squirrels, 6 to 10 cents; Venison, 10 to 15 cents per lb.; Eggs, 7 to 10 for 13 cents.

Honey, from 12 to 18 cents per lb.
Dairy Products.—Butter, from 18 to 25 cents per lb.; Cheese, 7 to 10 cents; Cheese Cakes, 8 for 12 1/2 cents; Milk, 4 to 6 cents per quart.

Ice.—25 cents per 100 lbs.

Fruit and Nuts.—Lady Apples, from \$3.50 to \$5 per bbl.; Newtown Pippins, \$1 to \$3.50; Vandervere, \$1.50 to \$2; Spitzenburg, and Wine Apples, \$2; Belle Fleurs, \$1.75; R. I. Greenings, \$1.25 to \$1.50; Fall Pippins, \$1.50 to \$2; Golden Pippins, \$1.50 to \$1.75; Pearmaine, \$1.25; Gillflowers, \$1.75; Roxbury Russets, \$1.25 to \$1.75; Apples in small parcels, 6 to 18 cents per half peck; Quinces, \$1 to \$2.50 per 100; Cranberries (eastern), \$5 50 to \$7 per bbl.; Cranberries in small parcels, 25 to 37 cents per half peck; Grapes (Malaga), 18 to 25 cents per lb.; Oranges, 25 to 62 cents per dozen; Lemons, 12 to 26 cents; Bananas, 50 to 75 cents; Chestnuts, \$3 to \$3.50 per bushel; Hickory Nuts, \$1 to \$1.25; Peanuts, \$1.25 to \$1.50; Coco Nuts, 6 cents each; Pecan Nuts, 8 to 10 cents per lb.; Filberts, 8 cents; Madeira Nuts, 10 cents; Almonds (hard-shelled), 12 cents; Almonds (soft-shelled), 15 to 18 cents.

Vegetables.—Carter, Mercer and Kidney Potatoes, 75 to 87 cents per bushel; Pinkeyes, 60 to 62 cents; Potatoes in small parcels 12 cents per half peck; Sweet Potatoes, \$1 per bushel; Sweet Potatoes in small parcels, 12 to 15 cents per half peck; Onions red, 37 to 41 cents per bushel; Onions (white), 75 cents; Onions (silver-skinned), 50 cents; Onions in small parcels, 12 to 15 cents per half peck; Leeks, 6 cents for 3; Tomatoes, 50 cents per basket, or 15 cents per half peck; Citron Melons (for preserving), 9 to 18 cents each; Valparaiso and Patagonian Squashes, 12 to 18 cents; Long-necked Striped Squashes, 12 cents; Flat Turnips, 25 cents per bushel; Flat Turnips in small parcels, 6 cents per peck; Ruta-Bagas, 37 cents per bushel; Beets, 50 cents; Beets in small parcels, 1 cent each; Carrots, 37 cents per bushel; Carrots in small parcels, 1 cent each; Parsnips, 42 cents per bushel; Parsnips in small parcels, 1 cent each; Oyster Plants, 4 to 5 cents per bunch; Purple Cabbages, 6 cents each; Cabbages (common), 3 to 4 cents; Cauliflowers, 15 to 25 cents per head; Celery, 6 to 8 cents; Lettuces, 18 to 25 cents per dozen.

REMARKS.—The market is quite active, and prices without much change. The season has been a prosperous one upon the whole, and prices good for northern and western products. We regret to say, that those at the south are not paying so well, and there seems to be little prospect of a rise. We shall hope for more prosperous times next year; but in looking abroad at the troubles in Europe, what cause have not the people of America to congratulate themselves upon their envious condition? Let us be thankful to a kind Providence that things are so well with us, and endeavor by our good conduct and contentment, to merit a continuation of his blessings.

To CORRESPONDENTS.—Communications have been received from M. W. Phillips, W. Bacon, A. L. Elwyn, Solon Robinson, A. Farmer Subscriber, C. D., Samuel Allen, T. C. Peters, Isaac Hicks, An Amateur, Wm. R. Prince, A. Beatty, H. Fuller, James Boyle, Sergeant Talrous, and Reviewer.

Curing Hams.—F., of Fairfax, Va.—If your neighbor's hams were packed down in charcoal dust in a cellar, or other damp place, their decay must have been caused by the absorption of moisture by the charcoal. Had his hams been packed away in dry charcoal dust, in a cool dry room above ground, he would have had no cause for complaint about "book farming."

A Plain Truth Plainly Spoken.—A Farmer Subscriber.—We agree with you. Ten to one the writer of the article alluded to in our November number, is himself one of those accustomed to the luxury of "easy chairs, and the vanity of gloves," whose endeavor it is not "to get their living out of the soil," but out of their fellow men. Persons wishing work can find employment by applying at the office of the Emigrant Society, Spruce st. N. Y., without brokerage or charge.

